General practitioners' use of guidelines in the consultation and their attitudes to them

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SUMMARY

Background. *There is concern about the apparent lack of uptake of management and referral guideline information by general practitioners (GPs) in their day-to-day consultations with patients. Little is understood about the barriers to the uptake of guidelines as perceived by GPs.*

Aims. *To explore how GPs gain access to and use guidelines, including computer-based guidelines, in day-to-day consultations with their patients; and to identify the perceived problems and barriers to the use of guidelines in such situations.*

Method. *Postal questionnaires enquiring about the practices and attitudes towards the use of guidelines in general practice were completed by 391 of 600 randomly selected GPs in the South and West NHS region.*

Results. *GPs found guidelines a useful method of accessing expert information. Key factors in their uptake were brevity, an authoritative and unbiased source of evidence, and resonance with the GP's usual practices; they also needed to be flexible enough to incorporate individual viewpoints. Guidelines were perceived as being valuable to enable safe delegation of care to other health professionals and for sharing decision-making with patients. Dissemination of guidelines through the medium of computers was acceptable to the majority of GPs. Virtually all (93%) responders reported adapting guidelines to the needs of individual patients. Older GPs from non-fundholding practices were least likely to show a positive attitude towards guidelines.*

Conclusion. *In principle, there is a very positive attitude towards the use of guidelines in general practice. However, those developing guidelines for use by GPs in the consulting room need to be aware of the factors that facilitate their use in practice. Educational strategies aimed at increasing the use of guidelines need to take into account the significant proportion who show negative attitudes towards guidelines, whose characteristics have been identified in this study.*

Keywords: general practitioners; guidelines; consultation.

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Submitted: 30 January 1998; final acceptance: 7 August 1998.

Introduction

GUIDELINES, defined as 'recommendations for patient management that identify one or more strategies for treatment',[1] have been developed as a means of helping clinicians in the management of a number of acute and chronic conditions, using the best available evidence. When used, they have been shown to improve both the 'process'[2] and 'outcome'[3] of care. However, there is concern about the apparent lack of uptake of guideline information by general practitioners (GPs) in their day-to-day consultations with patients.[4-6] Studies aimed at improving this situation focus on three broad areas:

- *Guideline development*. How are guidelines developed, who should be involved, and what types of evidence should be included?[7-12]
- *Dissemination and implementation of guidelines*. How well do physicians comply with guidelines and how can compliance be improved by using reminders,[16] incentives,[17] and/or peer appraisal?[3]
- *The views and working practices of GPs to identify possible barriers to guideline use.* An understanding of the practitioners' own perspectives is a prerequisite for a sensible implementation approach, yet these have received scant attention.[18,19] The main approach has been to view the issue, in researchers' or policymakers' terms, as a 'problem of doctors failing to follow guidelines'.[20] By contrast, our study sought to address the issue from the GP's viewpoint using a questionnaire derived from qualitative inquiry methods.

Method

A postal survey of a randomly selected sample of 600 GPs from the register of those in practice in the South and West NHS Region was undertaken in November 1996.

The questionnaire was developed from analysis of the views and perceptions expressed by GPs interviewed in the earlier, qualitative phase of the study.[21] The questionnaire was piloted and refined on a further sample of 20 GPs. The final version comprised four sides of A4-size paper and was in three sections (a copy is available from the authors). The first section asked GPs to indicate their agreement with a series of statements about guidelines on a four-point Likert scale (strongly agree/agree/disagree/strongly disagree). Responders were also asked to complete, in their own words, the following statement: 'The one thing most likely to make me turn to a guideline is ... ' The second section asked about the responders' use of computers in general practice and at home. The third section elicited demographic information about the responder.

There were two mailings of the questionnaire with an enclosed reply-paid envelope. The data were coded and analysed using the statistical computer package SPSS for Windows (release 6.1, 1994).

Analysis of the open-ended question (Table 1) was performed by one of the authors (AF) using an iterative method similar to the first stages of the method of constant comparison.[22] To enhance validity, the coding was repeated blind by a second author (SG), disagreements being resolved by discussion.

Depending on the responses to questions on computer use,

responders were divided into two groups:

- *Computer 'limited users'*. Those who did not use the computer at all during the consultation, or who used them during consultations only to look up patient details and to prescribe.
- *Computer 'extended users'*. Those who, in addition to looking up patient details and prescribing, used their computers to enter morbidity data, to access reference information, or communicate with other members of the practice team.

Factor analysis

Factor analysis has been used by psychologists and social scientists to group responses and develop a set of 'factors' that are derived to be maximally independent. Factor analysis is typically used to assess dimensions underlying a number of variables in order to identify general concepts and to increase the validity of scales by eliminating irrelevant items.

The 33 questions in the attitude section of the questionnaire were included in a principal components analysis using varimax rotation. Based on visualization of a Scree Plot, the analysis was constrained to fit five factors.

Variables loading upon these factors with values greater than ±0.5 were identified and retained in calculating the factor scores. Examining the variables that loaded heavily upon each factor — and taking note of the direction of the loading (positive or negative) — a summary description of each factor was developed. Cronbach's alpha was calculated for each of the factors.

Multiple linear regression

Multiple linear regression analyses were performed using the factors derived from the factor analysis as outcome measures. Predictor variables, examined in the model, were: years in practice, number of partners, sex, fundholding status, training practice status, computer use in the consultation, and preference for different types of presentation of guidelines (flow-charts, checklists, small booklets, 1–2 sides of A4, or for card indices).

Results

Three hundred and ninety-one (65%) of the 600 GPs responded.

Characteristics of the sample

Seventy-three per cent (285) of the responders were male, 44% (173) came from fundholding practices, and 50% (193) practised in training practices. The mean number of partners, not including the individual who responded to the questionnaire, was 4.8 (SD = 2.3), and the mean number of years in practice was 14 years (SD = 9.3). Those who responded did not differ significantly across a range of important variables (sex, fundholding status of practice, training practice status, number of partners, numbers in single-handed practice) when compared with all GPs in the South and West Region.[23] GPs with surgery addresses with large city postcodes (Bristol, Southampton, and Portsmouth) were adequately represented among the responders.

GP attitudes towards guidelines

The proportion of GPs agreeing or strongly agreeing with each of the statements about guidelines is shown in Tables 2 and 3.

Responders were asked to complete, using their own words, the statement 'The one thing most likely to make me turn to a guideline is ... ' Two hundred and thirty-eight responders (61%) completed this statement and the responses were sorted into the categories shown in Table 1. Key factors for use of guidelines were brevity, simplicity, ease of retrievability, reputable source and quality, and the complexity of the presenting problem.

Attitudes to use of guidelines: factor analysis

The final factor labels, which were derived by discussion involving all members of the project team, were: guidelines in principle, guidelines in daily use, organization, guideline source, and sharing with patients. The 23 statements associated with each of the factors are shown in Table 2, together with the percentage of responders agreeing or strongly agreeing with each statement, and the Cronbach's alpha for each factor.

Ten statements in the questionnaire did not load strongly upon any of the five factors and are shown in Table 3.

Multiple linear regression analysis

The results of this analysis (Table 4) reveal a number of variables associated with higher scores (greater enthusiasm) for the factor 'guidelines in principle': fewer years that a doctor had been in practice, female sex, and a preference for guidelines in the form of flow-charts. These predictor variables were then used in a model to examine the association with each of the following other factors: 'guidelines in daily use', 'organization', 'guideline source', and 'sharing with patients'. The following variables were significantly predictive of a higher score (lower enthusiasm) on the factor 'guidelines in daily use': more years in practice, female sex, non-fundholding status, and computer 'limited user' status. Being of the male sex and a preference for a guideline format of two sheets of A4 paper were significantly predictive of a higher 'organization' score.

There were no significant associations with 'guideline source' either in the univariable or multivariate analysis. A significant association on univariable analysis with the predictor variable 'number of partners' was shown for the factor 'sharing with patients', but the significance of this association disappeared on multivariate analysis.

Discussion

Studies aimed at improving the uptake and use of guidelines by GPs have chiefly been concerned with the way in which guidelines have been developed, who is involved in their development, and their dissemination and implementation.

This study, in contrast to its two predecessors,[18,19] dealt with the issues of format and presentation of guidelines (including computer-based presentation), the use of guidelines as a basis for delegation, and the problem of retrievability. These were all regarded by the GPs who took part in the earlier qualitative study,[21] as being particularly important in determining whether or not a guideline was used.

The response rate to the postal questionnaire was 65% overall, so the results need to be treated with some caution, despite the fact that the sample who responded was broadly representative of GPs in practice in the South and West NHS Region.

In factor analysis, problems arise in determining the number of factors that can be derived from the analysis and their labelling. The statements and the responses to them are presented in this paper in full, to allow the reader to determine how adequately the factors have been described by the authors. The relatively low Cronbach's alpha values for factors 4 and 5 are partly accounted for by the small numbers of items contributing to these factors.[24] The validity of these factors and their labels could be supported by replicating the survey with another sample of GPs, or by independent performance of the factor interpretation and consensus process.

Overall, there were very positive attitudes towards guidelines and, if used, GPs believed that they led to good outcomes. A

Table 1. Categories of responses to the statement: 'The one thing most likely to make me turn to a guideline is ...'

Response category	Number	Percentage
Quality; clarity, simplicity, short format	42	18
Knowing that I've got it; easy to look up	42	18
Uncertainty; complexity of the problem	37	15
Knowing it's good quality; improves outcome; reputability of guideline	29	12
Easy to use	14	6
Sense of ownership	13	5
Common condition; new advice	8	3
Needing a reminder	7	3
Local consultant advice	7	3
Computer related	6	3
Specific conditions; long-term treatment regime	5	2
Peer pressure; other GPs use it	4	2
Use with patient; patient anxiety	3	1
Fear of litigation	3	1
Others	18	8
Total	238	100

Table 2. Key attitudinal factors to guideline use derived from factor analysis, together with related variable statements.

	Results of factor analysis	
Statement	Response	Percentage strongly agreeing or disagreeing
Guidelines in principle (Cronbach's alpha = 0.80)		
Following guidelines will usually lead to better patient outcomes	Agree	74
I am happy to receive unsolicited guidelines	Agree	56
I discard most of the guidelines I receive in the post	Disagree	29
Guidelines are only of limited use in helping to make clinical decisions	Disagree	67
Most guidelines are unsuitable, so I ignore them	Disagree	14
Guidelines don't affect real practice	Disagree	28
When I am uncertain I am more likely to ask a colleague than consult a guideline	Disagree	67
I would rather keep up-to-date by reading journals than looking up guidelines	Disagree	39
I often find I am not referring to guidelines even when they are available	Disagree	75
Guidelines in practice (Cronbach's alpha = 0.66)		
I would like to have guidelines on a computer in my consulting room	Disagree	65
Guideline information would be best if linked in with computerized patient records	Disagree	45
It is worthwhile to write your own practice guidelines	Disagree	78
Guidelines can be a useful basis for delegation to other practice team members.	Disagree	89
Guidelines can facilitate a shared-care approach	Disagree	91
Organization (Cronbach's alpha = 0.59)		
The BNF could usefully contain more treatment guidelines	Disagree	78
I find it hard to tell which guidelines provide really high quality advice	Disagree	73
When I do want a guideline I can never find it	Disagree	59
I need help in organizing a good filing system	Disagree	59
Guideline source (Cronbach's alpha = 0.38)		
For me to use them, guidelines must come from a reputable source	Disagree	96
I interpret the guidelines I do use to suit the individual patient's needs	Disagree	93
I am less likely to trust guidelines if commercial companies have been involved	Disagree	87
Sharing with patients (Cronbach's alpha = 0.31)		
I feel a fool if a patient sees me looking up a guideline	Disagree	12
I wouldn't want patients to see everything I put into the computer	Disagree	32

more positive attitude towards the use of guidelines was shown by younger GPs than older ones. This may be explained by the more extensive training that younger doctors have received in the use of guidelines and the logic of clinical problem solving.

The style and form of communication in the context of the GP–patient relationship is of central importance, and the introduction of guidelines into the consultation must take this into account. In our sample, 91% of responders reported using guidelines as an important part of sharing decision-making processes in the consultation. This finding needs to be taken into consideration so that the language and the concepts used are accessible to both the patient and the GP.

The physical form in which guidelines appear is important to GPs. Flow-charts and guidelines not exceeding one or two sides of A4 paper are preferred by the majority of responders in this study. However, 59% of GPs reported difficulties in finding a guideline when they needed it. Making guidelines available on the computer terminal might overcome the reported difficulties

Table 3. Statements not impacting significantly in factor analysis.

Statement	Percentage strongly agreeing
Nothing is to be gained from adapting national guidelines	19
I turn to referral guidelines more often than other types of guidelines	15
Sharing guidelines with patients is helpful	60
The definition of 'reasonable' care cannot be provided by guidelines alone	88
I worry that I could be more open to litigation if I deviate from the guidelines	52
I am unlikely to take notice of a guideline which differs appreciably from my current practice	35
I don't find there is enough time to look up guidelines during consultations	65
It's not often that I haven't a clue what to do	78
Personal contact with hospital professionals is much more useful than their guidelines	56
We use the same guidelines throughout the practice	50

Table 4. Predictors of guideline factors: multiple linear regression analyses.

Predictor variables	Outcome variables					
	Factor 1: Guidelines in principle[a]		Factor 2: Guidelines in daily use[b]		Factor 3: Organization[c]	
	P value	Coefficient	P value	Coefficient	P value	Coefficient
Sex (Female versus male)	0.05	0.24	0.008	0.31	0.04	–0.13
Fundholding status (Non-FH versus FH)			0.031	0.21		
Preference for flow charts (No/Yes)	0.046	–0.21				
Preference for A4					0.013	0.15
Computer proficiency (computer 'limited user' versus computer 'extended user')			<0.0001	0.57		
Years in practice	0.02	–0.014	0.002	0.017		
R square for whole model	7%	12%	6%			

All coefficients are adjusted for factors listed in the 'methods' section of the paper. [a]Factor 1: a high score indicates greater enthusiasm for guidelines in principle; [b]factor 2: a high score indicates lower enthusiasm for guidelines in daily practice; [c]factor 3: a high score indicates a more organized approach.

that GPs experience in gaining access to guidelines during the consultation. There is widespread interest (65%) in disseminating guideline information via the computer. However, only 45% of responders were interested in linking guideline information to the medical records of individual patients. This may reflect the clumsiness of the present generation of linked guideline systems.

Older GPs from non-fundholding practices who are not computer 'extended users' show the least positive attitudes towards the use of guidelines in principle. In contrast, GPs from fundholding practices are more likely to be keen on guidelines and be proficient computer users. Fundholding status and extended use of the computer are probably indicators of a more structured approach to general practice.

Of particular interest are the apparently conflicting associations found between females and the outcome variables 'guidelines in principle', 'guidelines in daily use', and 'organization'. These associations could, possibly, be explained by the fact that many women doctors work part-time in general practice. While they may place a high value on using guidelines in principle, it may be difficult for them to put this into effect, perhaps for practical reasons, such as the need to share consulting rooms with other doctors. It was not possible to test this hypothesis in this dataset.

As a result of this study we can make a number of practical recommendations on the development and implementation of guidelines, which will be of help to GPs and those involved in helping GPs to use guidelines in the consulting room:

- Investigate practical means of improving GPs' awareness of, and access to, guidelines through use of library-type catalogues and filing systems.
- Ensure that the source of, and the evidence for, guidelines are clear, authoritative, and reputable.
- Ensure that the language in which guidelines are written is simple enough to make it easy for GPs to share them with patients.
- Guidelines should be clear enough to provide the basis of delegation to other members of the practice team.
- Guidelines are preferred in a flow-chart format, on no more than two pages of A4 size paper.
- Computer-based guidelines are increasingly acceptable, but should again be brief and simple and require development so that they are easily accessible at the point of work.

Conclusion

This study highlights a disparity between GPs' attitudes towards guidelines and their uptake in daily practice. It has identified a number of characteristics of GPs that make them more or less likely to be enthusiastic about guidelines and their use in the consulting room, and has also identified a number of factors associated with use. These have implications for the many guidelines that are developed and used. The development of computer technology offers great opportunities for improving access to and facilitating retrieval of guidelines. What this does not tell us is how to manage the problem of poor uptake of guidelines in general practice. However, this study identifies a group likely to be reluctant guideline users; trials of alternative educational interventions should be considered for this group.

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