Audit in general practice: factors influencing participation

Richard Baker, Noelle Robertson, Azhar Farooqi

Abstract

Objective—To identify the factors influencing participation in a single topic audit initiated by a medical audit advisory group.

Design—Interview and questionnaire survey of general practitioners who had been invited to take part in an audit of vitamin B-12.

Setting—All 147 general practices in Leicestershire.

Main outcome measures—Aspects of structure, attitude, and behaviour that influenced participation or non-participation.

Results—75 practices completed the audit, 49 withdrew after initial agreement, and 23 refused to take part at the outset. Participants were more likely than those who refused to view the advisory group as useful or a threat and to have positive thoughts about audit but less likely to have previously undertaken audit entailing implementation of change. Participants were more likely than those who withdrew to have positive thoughts about audit and to have discussed whether to take part within the practice but were less likely to view the advisory group as useful. The most common reason given for withdrawal was lack of time.

Conclusions—Participation was influenced by attitudes towards audit in general and the advisory group in particular and by aspects of behaviour such as communication within the practice. Practical support and resources may help some practices undertake audit, but advisory groups must also deal with attitudes and unsatisfactory communication in practice teams.

Introduction

Plans for the creation of medical audit advisory groups were announced by the Department of Health in 1990 with the explicit objective of "the participation of all practices by April 1992."¹ Advisory groups have used various approaches and several of their reports suggest that high levels of participation can be achieved.²⁻⁴ Furthermore, some groups have organised single topic audits in which all local practices are invited to take part.⁵⁻⁷ For this type of project the group devises a protocol, provides practices with instructions for collection of data, undertakes analysis of data, and returns comparative feedback to encourage appropriate changes in performance and completion of the cycle of audit.

To increase involvement in audit, information is needed about the characteristics of non-participating practices and the particular problems that may be responsible. In a survey conducted in Leeds in 1990 most of the general practitioners expressed positive attitudes towards audit, although over half reported concern about possible difficulties, including the amount of paperwork, the preparation of protocols, and the resources that might be needed.⁸ In a survey in Leicestershire in 1991, 40% of general practitioners reported activities defined as partial audit, with older doctors and those from smaller practices reporting less positive attitudes to audit.⁹ In surveys undertaken by other groups, characteristics of practices associated with undertaking audit included having well organised

records and being a training practice¹⁰; having a computer, a practice manager, and more than one partner; and participation in courses run by advisory groups.¹¹ It is not clear, however, which of these characteristics are most important and several may merely reflect size of practice and training status.¹²

The likelihood of an innovation such as audit being adopted may be influenced by the values, beliefs, and experiences of practice teams.¹³ Characteristics of innovative teams may include their commitment to functioning as a team and effective communication.¹⁴ Consequently, strategies to encourage participation in audit that deal only with factors such as practice size or facilities are likely to be less effective than those which also acknowledge the attitudes and beliefs of general practitioners and their teams.

We identified aspects of structure, attitude, and behaviour related to participation and non-participation in audit. We undertook the work during the course of an audit of use of vitamin B-12 offered to all local practices by the Leicestershire Medical Audit Advisory Group. It was commissioned by the group so that an independent agency could identify the factors responsible for non-participation. The selection of a single topic audit as the background for the study offered several advantages. Firstly, a single specific definition of audit was used; a weakness of previous studies is that audit can be classified in different ways, from simple data collection to the more complex sequence of steps entailed in completing the cycle. Secondly, the audit topic itself was one of the most simple that can be undertaken in general practice as there were only a small number of criteria and each practice would have a limited number of patients. Therefore, those practices unable to undertake this audit would probably encounter problems in taking part in audit of almost any other topic.

Method

An invitation to participate in an audit of use of vitamin B-12 was issued to all 147 Leicestershire practices, with those willing to take part being required to confirm that all general practitioners in the practice agreed to participation. Data collection was undertaken by the practices themselves, and after the first collection of data the practices were given feedback and advised to implement appropriate changes. The second data collection then took place.

To explain the initial decision about participation an interview was sought with the general practitioner identified by each practice as responsible for coordinating audit in each refusing practice and a random sample from the group of participating practices. From the interview schedule, a questionnaire was developed and sent by post to the contact in all remaining practices in the participant group. The interviews began after the practices had notified the group of their decisions about participation and had received instructions about beginning the audit.

The interview and questionnaire included questions about the reasons for participation or refusal and whether participation was discussed within the practice. Questions about the structure of the practice included total list size, the number, age, and sex of

Eli Lilly National Clinical Audit Centre, Department of General Practice, University of Leicester, Leicester General Hospital, Leicester LE5 4PW
Richard Baker, director
Noelle Robertson, lecturer

Department of General Practice, University of Leicester, Leicester
Azhar Farooqi, senior clinical research fellow

Correspondence to:
Dr Baker.

BMJ 1995;311:31-4

partners, how many were members of the Royal College of General Practitioners, training status, and underprivileged area score.¹⁶ Attitudes towards the group were sought by open questions about perceptions of its usefulness, composition, and purpose and whether it was perceived as being potentially threatening to professional autonomy. Three closed questions, each with five possible responses, were included to assess the practice team's experience of and thoughts about audit.

During the audit some practices that had initially agreed to participate decided to withdraw. An interview was sought with the general practitioner contact in these practices to identify the reasons for withdrawal. Thus, there were three practice groupings: participants, withdrawals, and refusals.

Responses were coded for analysis by using SPSS-PC. The χ^2 or Kruskal-Wallis¹⁶ tests were used to compare the characteristics of the three practice groups. To identify the most important characteristics explaining participation we used logistic regression.¹⁷

Results

Of the 147 practices in Leicestershire, 23 refused to take part, 49 withdrew, and 72 completed the audit within the deadline set by the advisory group. A

TABLE I—Characteristics and views about medical audit advisory group of practices that either participated in, withdrew from, or refused to take part in the vitamin B-12 audit. Figures are numbers (percentages) unless otherwise stated

Characteristic	Participants	Withdrawals	Refusals	P value
No of respondents (response rate %)	71 (94.7)	40 (81.6)	18 (78.3)	<0.05
Practice characteristics:				
Mean (SD) list size (1000s)	6.9 (3.5)	5.0 (3.5)	5.7 (3.1)	<0.01
Mean (SD) No of partners	3.5 (1.5)	2.4 (1.5)	3.3 (1.9)	<0.01
Mean (SD) underprivileged area scores	8.01 (16.6)	11.1 (19.0)	-0.82 (14.3)	NS
Singlehanded practice	7 (9.9)	17 (42.5)	4 (22.2)	<0.001
Practice with female partner(s)	40 (56.3)	18 (45.0)	10 (55.6)	NS
Practice with college members	49 (69.0)	15 (37.5)	11 (61.1)	<0.001
Training practice	14 (19.7)	3 (7.5)	7 (38.9)	<0.05
Discussed the decision to take part	64 (90.1)	26 (65.0)	11 (61.1)	<0.001
Views about advisory group:				
Understood composition of group	28 (39.4)	11 (27.5)	9 (50.0)	NS
Understood purpose of group	32 (45.1)	19 (47.5)	9 (50.0)	NS
Viewed group as threat	14 (19.7)	5 (12.5)	0 (0)	NS
Viewed group as useful	50 (70.4)	30 (75.0)	7 (41.2)	<0.01

TABLE II—Views of practices about audit that either participated in, withdrew from, or refused to take part in vitamin B-12 audit

Question and possible responses	No (%) of participants	No (%) of withdrawals	No (%) of refusals
Experience of audit*:			
No audit	10 (14.3)	14 (37.8)	2 (11.1)
Chose a topic	17 (24.3)	7 (18.9)	2 (11.1)
Collected data	13 (18.6)	8 (21.6)	1 (5.6)
Implemented change	20 (28.6)	4 (10.8)	10 (55.6)
Completed cycle	10 (14.3)	4 (10.8)	3 (16.7)
Feelings about audit:			
Waste of time	0 (0)	2 (5.4)	0 (0)
Don't care	7 (10.0)	1 (2.7)	3 (16.7)
Need more knowledge	6 (8.6)	9 (24.3)	1 (5.6)
Good thing	35 (50.0)	18 (48.6)	9 (50.0)
It really improves care	22 (31.4)	7 (18.9)	5 (27.8)
Thoughts about audit:			
Interferes with important work	3 (4.3)	5 (13.5)	2 (11.1)
Irrelevant	3 (4.3)	1 (2.7)	0 (0)
Relevant	23 (32.9)	16 (43.2)	6 (33.3)
Valuable	24 (34.3)	11 (29.7)	6 (33.3)
Essential	17 (24.3)	4 (5.7)	4 (22.2)

*P < 0.05, χ^2 test.

TABLE III—Results of backward stepwise logistic regression of participant practices and practices that refused to take part in audit run by medical audit advisory group

Variable	Regression coefficient (SE)	-2 Log likelihood ratio	Significance of log likelihood ratio test on removal of term	Effect on participation
Group viewed as useful	2.94 (0.935)	12.0	<0.001	Increase
Group viewed as threat	20.94 (125.56)	14.9	<0.001	Increase
Positive thoughts about audit	22.14 (111.36)	11.5	<0.001	Increase
Previous experiences of completing audit cycle	-11.60 (66.95)	16.3	<0.001	Decrease

further three returned information from the second data collection after the deadline but in this study have been included with those that did complete on time. The numbers of responses were 71 (95%) for the participant practices, 40 (82%) for the withdrawals, and 18 (78%) for the refusals ($P < 0.05$). The characteristics of responders and non-responders in both the withdrawal and refusal groups were compared. In the withdrawal group the non-responders were more likely to have smaller list sizes (mean 1575 v 5000; $P < 0.001$), and fewer partners (mean number of partners 1.2 v 2.4; $P < 0.05$), less likely to have a college member as a partner (mean number of college members 0 v 0.65; $P < 0.05$), and less likely to have a female partner (mean number 0 v 0.6; $P < 0.05$). There were no significant differences between responders and non-responders in the withdrawal group for age of partners or underprivileged area scores. Of the refusals, there were no significant differences between responders and non-responders for numbers of patients or partners, underprivileged area scores, college membership, or number of female partners. The mean age of general practitioners in the responding practices was 41.8 years, however, and in the non-responders 49.2 years ($P < 0.05$). There were no significant differences between the responses to the interviews and questionnaires administered to the participants, and these were combined for analysis.

Of the responding participant practices, 57 (81%) reported no difficulties in undertaking the audit. Of the 13 reporting difficulties, seven gave limited time as the main problem. Of the 18 that refused to take part from the outset, nine reported the topic as either "boring" or "too easy" or an audit of a topic they had undertaken before. The nine other practices cited lack of resources, shortage of time, and other pressures.

Practices that withdrew usually gave more than one reason for their decision, 35 (88%) indicating lack of time. Seventeen (43%) had inadequate staff time to take part in the data collection, nine (23%) reported that audit was not a priority for them and 16 (40%) reported problems in the practice such as changes in the partnership, communication problems in the team, or ill health of a team member.

Tables I and II show comparisons of the characteristics of the three groups. Practices in the participant group were more likely to be larger, to have a partner who was also a college member, and to have discussed the decision about taking part in the audit. They were more likely to report positive thoughts about audit. Perceptions of the advisory group as potentially threatening included concerns that it might interfere with the decisions of general practitioners about clinical care and lead to the imposition of sanctions if audit were not undertaken. Practices that refused to participate did not see the group as a threat.

To identify the most important factors in influencing participation we undertook a logistic regression analysis. The explanatory variables were the number of partners, average age of the partners, the number who were college members, number of female partners, training practice status, understanding of the function and composition of the advisory group, views on the usefulness of the group, perceptions of the group as threatening, underprivileged area score, thoughts about audit, whether the practice had previously undertaken audit that entailed implementing change or completing the cycle, and whether the decision to take part had been discussed in the practice. We used backward stepwise regression with the log likelihood criteria for rejection of variables. Tables III and IV show the results. Practices were more likely to agree to participate and complete the audit rather than refuse at the outset if they viewed the advisory group as useful or threatening and had positive thoughts about audit but

TABLE IV—Results of backward stepwise logistic regression of participating practices and practices that withdrew from audit run by medical audit advisory group

Variable	Regression coefficient (SE)	-2 Log likelihood ratio	Significance of log likelihood ratio test on removal of term	Effect on participation
Group viewed as useful	1.66 (0.92)	4.2	< 0.05	Decrease
Positive thoughts	-0.68 (0.32)	5.0	< 0.05	Increase
Decision about participating discussed in practice	-2.48 (0.68)	16.2	< 0.001	Increase

less likely to take part if they had previously undertaken audit that included implementing change. Practices were more likely to participate and complete the audit than withdraw if they had positive thoughts about audit and if the decision had been discussed in the practice but more likely to withdraw if they viewed the group as useful.

Discussion

Although this study has been undertaken in the context of a single advisory group the characteristics of general practices in Leicestershire are reasonably representative of the United Kingdom.¹⁹ Thus the findings are probably applicable generally and confirm that there are differences in the structure of practices that do or do not participate in audit, participation being more likely in practices that are larger, have partners who are college members, and are training practices.⁹ On regression analysis, however, the variables explaining participation rather than withdrawal or refusal were either behavioural—having discussed the decision in the practice—or attitudinal—including viewing the group as useful, viewing the group as a threat, and having positive views about audit.

The finding that perception of the advisory group as being a threat was more likely to encourage participation may indicate that general practitioners surmised that participation would reduce the future risk of sanctions or imposition of audit. It also suggests that reliance on gentle encouragement alone may be a relatively ineffective strategy. Viewing the group as useful was associated with greater likelihood of agreeing to take part, but having agreed to participation was associated with an increased likelihood of withdrawal. Practices that had greater previous experience of audit may have felt less need of the group's support, as indicated by the reasons given for not taking part by half of the refusing practices. Those that withdrew had less previous experience of audit and, although they felt unable to complete the audit, may have felt the

approach adopted by the group was useful in introducing them to the principles of audit.

Discussion within the practice about the decision to take part was important. Discussion may influence commitment of members of the practice to the audit¹² and also presents the opportunity for teams to identify solutions to problems. Discussion was more important than practice size.

The participating general practitioners were assured of confidentiality; the interviews and questionnaires were administered by researchers who were independent of the advisory group. It is unlikely, therefore, that respondents were influenced by a need to express only those views that would be thought acceptable to the advisory group. While the response rates in the study were satisfactory, there were differences between responders and non-responders in the groups who withdrew and refused to participate. The differences were in characteristics similar to those that differentiated participants from practices that withdrew—practice size and college membership. General practitioners in non-responding practices that refused to take part had a higher mean age than those in responding practices. Thus, non-responding practices may be even more reluctant to undertake audit and more difficult to encourage.

The importance of our findings is that they indicate several strategies that can be used to promote audit. Advisory groups need to find ways to help practice teams discuss audit, which could be undertaken by facilitating team meetings.²⁰ Single handed practitioners may need encouragement to join audit groups.²¹ A simple audit organised by an advisory group seems to be a worthwhile strategy for involving practices that have only limited previous experience of audit, but these practices may need continuing help to ensure that they do complete the audit and implement change.

The main reasons for withdrawal or failure to take part were lack of time or resources. Many of the practices that withdrew or refused indicated that with financial help or additional staff time they might be able to take part. While there may be a limit to what advisory groups can achieve, unless the difficulties of time and resources can be resolved strategies to increase participation in audit that are confined to the provision of additional resources are unlikely to be maximally effective. Unless the attitudes of practitioners towards the advisory group and audit and aspects of behaviour such as communication in the practice are taken into account some general practitioners will continue to avoid participation in audit.

We thank the general practitioners who participated in interviews and completed the questionnaires. We are grateful to Sue Hills for statistical advice.

Source of funding: Leicestershire MAAG.
Conflict of interest: none.

Key messages

- The participation of general practitioners in audit is voluntary, although the objective of medical audit advisory groups is to ensure that all do take part
- Reports from such groups indicate that audit is being undertaken in many, although not all, general practices, and information is needed about the reasons for non-participation to identify effective methods to encourage all to take part
- The most important factors influencing participation are the attitudes towards audit and the audit group and discussion within the practice about participation
- The most common reason given for withdrawal from audit was lack of time, either for the general practitioners or for practice staff
- To achieve the participation of all practices audit groups need to encourage practice teams to discuss audit, promote appropriate attitudes towards audit and the audit group, ensure the cycle is completed once audit is begun, and target methods to help specific practices resolve the problem of time

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(Accepted 9 May 1995)

Asking patients to write lists: feasibility study

John F Middleton

See editorial

Department of General Practice, University of Leicester, Leicester General Hospital, Leicester LE5 4PW
John F Middleton, honorary RCGP research fellow

BMJ 1995;311:34

During consultations the patient's agenda is of paramount importance.^{1,2} To ignore it is to risk dysfunctional consultations and reduced compliance, with management being directed to issues not regarded as wholly relevant by the patient.³ For the patient to write a list of concerns seems logical. Yet doctors negatively stereotype patients who bring lists,⁴ and this presents a barrier to communication. In this pilot study I investigated the feasibility of all patients writing lists of concerns. I also investigated the effect of having a list on the number of problems raised and the time spent on each one.

Patients, methods, and results

I conducted this study during consultations with my own patients in an urban group practice. On booking appointments my patients were advised to draw up a list of their concerns, to bring spectacles or an interpreter if needed, and to come five minutes early to complete a form. On arrival, they were given a form, which had space for a list of concerns and asked four questions on their reasons for attendance; their answers were scored on a seven point Lickert scale derived from McWhinney's classification.⁵ The patients were asked to hand the form to me on entering the consulting room.

I studied 150 consecutive patients who attended morning surgeries on Wednesdays and Thursdays. In one group of 50 patients (A) I began the consultation by studying the list. In a second group of 48 patients (B) I said that the list was to be used for a survey and placed it face down in a box. A third group of 52 patients had

no lists and served as controls. Parents accompanying children completed the form on their behalf. For each consultation I recorded the number of problems elicited and the time taken to deal with them using a stopwatch, which I stopped during interruptions.

One patient in group A was unwilling to complete the list and was excluded from the study; 94 of the 98 patients who completed the list also completed the McWhinney questionnaire. The mean number of problems per consultation was 1.52 (range 1-5). The table shows an increase in the number of problems elicited when the patient made a list, with a further increase when the list was shown. These differences were not, however, significant. The time taken on each problem was reduced when a list was made, but there was not further reduction when the list was shown. Again, neither these differences nor the differences in consultation times were significant (table).

Comment

It is feasible for most patients to complete lists when given advance warning. Doctors' fears about long lists seem to be unjustified. The act of making a list could improve communication by helping patients to organise their thoughts. Sharing the list with the doctor might further improve the consultation by making the patient's agenda explicit.

I found that consultations were more efficient in terms of more problems being found and less time being spent on each problem when lists of concerns were drawn up and shown to me. The trend was most obvious in relation to the number of problems identified, but the differences were not significant between the groups. Two limitations of my study are that I analysed my own consultations (introducing the possibility of bias in a non-blind study) and I did not randomly allocate my patients to the three groups.

Future studies will need to be randomised; more consultations need to be studied and the consultations of more than one doctor analysed. To show whether lists are beneficial, additional outcome measures are needed. These might include patients' and doctors' satisfaction and patients' compliance and subsequent consultation rates.

I thank Dr R K McKinley, senior lecturer, department of general practice, University of Leicester, for help in compiling the statistics, and Dr S Hills of the University of Nottingham for statistical advice.

Source of funding: the analysis and writing up of the study were done with the help of funding from a research training fellowship from the Royal College of General Practitioners.

Conflict of interest: none.

Data on consultations according to whether patients completed or showed lists of concerns to general practitioner

	Group A (list shown; n=49*)	Group B (list not shown; n=48)	Group C (no list; n=52)
No of problems identified:			
Mean (SD)	1.65 (1.03)	1.52 (0.65)	1.40 (0.60)
Median (range)	1 (1-5)	1 (1-3)	1 (1-3)
Statistics†:			
Three groups	$\chi^2=0.91$, P=0.64		
A v B‡	$\chi^2=0.04$, 95% confidence interval -0.22 to 0.48; P=0.84		
A v C‡	$\chi^2=0.42$, 95% confidence interval -0.09 to 0.59; P=0.52		
B v C‡	$\chi^2=0.90$, 95% confidence interval -0.13 to 0.37; P=0.34		
Time of consultation (s):			
Mean (SD)	445.9 (263.8)	406.4 (141.5)	456.0 (255.7)
Median (range)	444.0 (86-1260)	409.5 (145-685)	392.5 (170-1342)
Statistics:			
Three groups‡	F=0.65; P=0.52		
A v B‡	95% confidence interval -46.2 to 125.2; P=0.36		
A v C‡	95% confidence interval -93.4 to 113.6; P=0.85		
B v C‡	95% confidence interval -32.2 to 131.4; P=0.23		
Time per problem (s):			
Mean (SD)	299.2 (163.7)	302.3 (135.5)	357.3 (219.6)
Median (range)	254.0 (86-809)	289.0 (104-621)	305.5 (104-1342)
Statistics:			
Three groups‡	F=1.72, P=0.18		
A v B‡	95% confidence interval -57.9 to 64.1; P=0.92		
A v C‡	95% confidence interval -18.7 to 134.9; P=0.13		
B v C‡	95% confidence interval -17.4 to 127.4; P=0.13		

*One patient was unwilling to complete list and was excluded from analysis.

†Kruskal-Wallis test.

‡Analysis of variance.

§Two tailed t test.

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(Accepted 24 March 1995)