Factors influencing the response to advertisements for general practice vacancies

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Abstract

Objectives—To investigate the extent of problems in recruiting general practitioners and to determine which practice characteristics affect recruitment—in particular, to see if practices with deprived patients have more recruitment problems.

Design—Postal questionnaire survey in August 1995.

Subjects—489 consecutive practices that had advertised for a partner in the *BMJ* from January to April 1995.

Main outcome measures—The number of applicants, the practices' satisfaction with their quantity and quality, and whether a successful appointment was made.

Results—442 (90%) practices replied. 262 practices (60%) were not very satisfied or very dissatisfied with the number of applications they received; 15 (3%) received no applications. There was a significant difference in the number of applications received by practices in different NHS regions. The 32 practices with the highest proportions of patients eligible for deprivation payments received a median of five applicants compared with 10 for practices without deprivation.

Conclusion—There is a widespread problem in recruiting general practitioners. Recruitment is hardest in areas with the greatest health needs.

Introduction

For several years there has been concern about shortages of general practice registrars.^{1,2} Two recent reports have suggested that there may now be difficulties recruiting principals into general practice.^{3,4} If this proves to be a continuing problem it will affect clinical care and also hinder attempts to build a primary care led National Health Service. This study reports a questionnaire survey of general practices and health authorities who advertised for general practice principals in the *BMJ* in early 1995. The aim was to determine the recruitment situation at that time and to analyse any variations in the responses received by different types of practice and, in particular, to see if practices with deprived patients were less popular with applicants.

Methods

The questionnaire was based on that used in the Medical Practices Committee study in 1994.⁴ It was tested informally on several practice managers and doctors and then piloted in 20 practices which had placed advertisements. Following the pilot one additional question about dispensing was added; the 20 pilot practices were recontacted and their data included in the study analysis.

Four questions were used to measure the response to advertisement; two asked quantitative information on the number of applicants and whether a successful appointment had been made; and two others determined the practice's satisfaction with the quantity and quality of applicants on four point Likert scales. Ten practice characteristics were studied: average list size, practice size, fundholding status, training, dispensing, on call arrangements, whether the vacant position was full time or part time, deprivation, area of practice, and NHS region. The questionnaire was sent to those who placed 489 consecutive first time advertisements for general practice principals in England and Wales that appeared in the *BMJ* from 7 January to 29 April 1995. The questionnaire was sent out on 1 August 1995, a minimum of three months after the advertisement first appeared. If practices did not respond within three weeks a repeat questionnaire was sent.

Statistics—The data were entered into EPI INFO version 5.01b and additional analysis performed on SPSS for Windows release 6.1. Univariate analysis was performed using the χ^2 test with significance at the 5% level. Logistic regression was then carried out to see if significant associations were independent.

Results

Replies were received from 442 out of 489 questionnaires, a 90% response rate (percentages given subsequently refer to percentages of respondents answering each question); because not all replies were complete the number of respondents to individual questions varied from 338 to 442. A higher proportion of the 47 non-responders used box numbers (13% v 3%, $\chi^2 = 10.17$, $P = 0.02$) and fewer non-respondents mentioned they were training practices in their advertisement (6% v 4%, $\chi^2 = 7.74$, $P = 0.005$). There was no significant difference in whether non-responding practices mentioned fundholding status, dispensing, or on call requirements in their advertisements.

GENERAL RESPONSE TO ADVERTISEMENT

The number of applications received varied from 0 (15 practices) to 50, with a mean of 11 and a median of 8. Seventy six practices (17%) received three or less applications. A total of 208 practices (47%) advertised or planned to advertise more than once, and a minimum of three months after the advertisement 92 (21%) had not made an appointment. Two hundred and ninety practices (65%) were very or reasonably satisfied with the quality of applicants, but practices were less satisfied with the quantity; 134 (30%) were not very satisfied and 128 (29%) were very dissatisfied.

Practices were asked for free comments on their experience of looking for a new partner, and 273 chose to comment. Twenty three were pleased with their response, but 239 described either particular problems their practice had experienced with recruitment or general disappointment. Thirty seven practices described

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Table 1—Practice characteristics which significantly affected the number of applicants and whether a successful appointment was made

Practice characteristics	No of practices	No of applications		Successfully appointed	
		Median	P value§	% Successfully appointed	P value
Size of practice					
Single handed	25	8		84.0	
>1 to <5 partners	248	6.5		74.3	
5+ partners	165	10	0.1	84.8	0.03
Dispensing					
Dispensing	59	10		91.4	
Non-dispensing	383	8	0.1	77.1	0.01
Training					
Training	147	8		86.2	
Non-training	294	8	0.4	75.3	0.008
On call arrangements					
Rota in practice	137	10		80.1	
Other*	304	6	0.0002	78.4	0.7
Type of partner					
Full time	328	10		83.1	
Other†	113	5	<0.0001	67.0	0.0003
Type of practice					
Inner city	71	6		69.0	
Other‡	371	8	0.0001	80.9	0.02
Deprivation					
Eligible for deprivation payments	159	6		68.4	
Not eligible for deprivation payments	281	10	<0.0001	85.3	<0.0001
Total responders		8		79	

*No on call (17), access to a cooperative or deputising service (287).

†Three quarter time (46), half time (42), job share (3), or a combination (22).

‡Urban (174), rural (56), mixed (141).

§ χ^2 0-7 applicants v 8 or more applicants.

|| χ^2 successfully appointed v not successfully appointed.

responses to previous vacancies, which in many cases had been dramatically better. Some of the language used illustrated the depth of feeling on the issue (see box).

PRACTICE CHARACTERISTICS AFFECTING RESPONSE TO ADVERTISEMENT

Univariate analysis

Practice factors which had significant effects on the number of applicants received or whether a successful appointment was made are summarised in table 1. Characteristics which affected practices' subjective satisfaction with the quantity or quality of applicants are summarised in table 2.

Average list size—Whether or not the practice had more than two thousand patients per whole time

Main themes from free text comments

General dissatisfaction or specific problems (239) including: previous vacancies attracted a better response (37), time consuming (9), "frightening," "ghastly," "soul destroying," "shocked," "general practice is a poisoned chalice; the young don't want to join and the aged are leaving."

Generally satisfied (n = 23): "no problems," "lucky."

Practices' views on candidates: Have high expectations (22), don't want the commitment of full time general practice (22)

Consequences of not appointing: Stress and depression (7), decreased cohesion and teamwork (4), appointing assistants, locums and more part timers, decreased outside commitments, low morale, "contemplating sick leave," "struggling on."

equivalent partner had no significant association with any of the four measures of response.

Practice size—Single handed practices were compared with practices with two to five partners and practices with more than five partners. The perceived quantity and quality of applicants were not significantly affected, but fewer of the practices with two to five partners had been able to appoint by the time of the study.

Fundholding status—The 218 practices who were fundholding or in the preparatory year were compared with 224 non-fundholding practices. There was no significant difference in any of the four measures of response.

Dispensing—Dispensing practices were more likely to have successfully appointed a principal. They were more satisfied with the quantity and quality of applicants but there was no significant difference in the actual numbers of applications received.

Training—There was no difference in the number of applications for training practices. Training practices were, however, more likely to be satisfied with the quality of applicants and to have successfully appointed someone.

On call arrangements—Practices who expected their new partners to do on call solely by rota within the practice were compared with practices who had other arrangements (mainly access to deputising services or cooperatives). Practices doing their own on call work received more applications. There was no difference in whether they had made an appointment, and they were not significantly more satisfied with their response in terms of quantity or quality.

Type of partner—Practices who wished to appoint a full time partner were compared with those who wished to appoint a part time or job share partner. Full time vacancies received more applications. These practices had successfully appointed someone in more cases and were more satisfied with the quantity of applicants but not their quality.

NHS region—Because the applications were not normally distributed the Kruskal-Wallis one way analysis of variance was used.⁵ This showed that the number of applications was not evenly distributed by region ($H = 30.5$, $df = 8$, $P = 0.0002$). The median number of applications in some regions—for example, Wales—was half that of other regions such as the North West (table 3).

Area of practice—Practices were asked to describe their practice as inner city, urban, rural, or mixed. Inner city practices received fewer applications (median 6 v 8) and had successfully appointed a partner in fewer cases. They were significantly less satisfied with the quality of applicants but not with the quantity. The 55 rural practices attracted more applicants than the other 383 practices ($\chi^2 = 5.39$, $P = 0.02$). The rural practices were more likely to have appointed a partner ($\chi^2 = 3.86$, $P = 0.05$) and were more satisfied with the quantity ($\chi^2 = 21.2$, $P < 0.0001$) and quality ($\chi^2 = 18.0$, $P = 0.0004$) of their response.

Deprivation—Practices were asked if they had any patients eligible for deprivation payments. Practices who had deprived patients had worse responses to their advertisements by all four measures. The numbers of applicants were smaller the greater the number of patients from deprived electoral wards (table 4). The 32 practices who had 80% or more patients from deprived wards had a median of 5 applicants compared with 10 for practices with no deprivation.

Multivariate analysis

When logistic regression was used with quantity of applicants (0-7 against ≥ 8 applicants) as the dependent variable, advertisements for full time partners (coefficient = 1.3, $SE = 0.25$, $P < 0.0001$), inner city practices

Table 2—Practice characteristics which significantly affected satisfaction with the quantity or quality of applicants

Practice characteristics	No of practices	Satisfaction with quantity of applications			Satisfaction with quality of applicants		
		Satisfied‡	Not satisfied§	P value	Satisfied‡	Not satisfied§	P value
Dispensing							
Dispensing	59	33	26		46	12	
Non-dispensing	383	146	236	0.009	244	137	0.03
Training							
Training	147	69	78		108	37	
Non-training	294	109	184	0.06	182	111	0.01
Type of partner							
Full time	328	144	183		214	111	
Other*	113	34	79	0.01	75	38	1.0
Type of practice							
Inner city	71	22	49		33	38	
Other†	371	157	213	0.09	257	111	0.0002
Deprivation							
Eligible for deprivation payments	159	49	110		87	72	
Not eligible for deprivation payments	281	130	151	0.002	202	77	0.0003
Total responders		179	262		290	149	

*Three quarter time (46), half time (42), job share (3), or a combination (22).

†Urban (174), rural (56), mixed (141).

‡Very satisfied and reasonably satisfied.

§Not very satisfied and very dissatisfied.

Table 3—Effect of NHS region on response to advertisement

NHS region	No of practices	Total No of applicants	Median No of applicants
North West	41	550	11
North Thames	73	883	10
South West	52	792	10
West Midlands	33	376	10
South Thames	68	720	9
Anglia and Oxford	51	500	8
Northern and Yorkshire	61	434	6
Trent	40	354	6
Wales	21	151	4
Total	440	4760	8

(coefficient = -1.06 , SE = 0.35 , $P = 0.002$), and NHS region ($P = 0.001$) had significant associations. Training and dispensing had no significant association. Eligibility for deprivation (coefficient = -0.46 , SE = 0.24 , $P = 0.06$) became significant when the inner city variable was excluded (coefficient = -0.78 , SE = 0.22 , $P = 0.0005$).

The same variables were analysed against perceived quality of applicants (very satisfied and reasonably satisfied against not very satisfied and very dissatisfied). Training (coefficient = 0.55 , SE = 0.24 , $P = 0.02$), deprivation (coefficient = -0.57 , SE = 0.25 , $P = 0.02$), and NHS region ($P = 0.004$) had significant effects. Advertisements for full time partners and dispensing had no significant association. Inner city practices (coefficient = -0.36 , SE = 0.31 , $P = 0.26$) did report significantly less satisfaction with the quality of their

applicants when deprivation was excluded from the analysis (coefficient = -0.65 , SE = 0.28 , $P = 0.02$).

Discussion

One third of general practice vacancies are filled without advertisement. This study describes the response received by those who do advertise because we thought that they would be in the best position to comment on the recruitment situation. Of practices who do advertise, 96% use the *BMJ*.³ The response rate of 90% is high for a general practice questionnaire study, which may reflect the current interest in this area.

The study confirms the findings of two recent reports that some practices are experiencing recruitment difficulties.^{3,4} Although the median number of applications was eight, 29% of practices were very dissatisfied with the quantity of applicants and 15 practices had no applicants at all. Because there have been no studies in this area before 1994 it is not possible to be certain whether the situation is worse than in the past, but many practices commented that they had received dramatically fewer responses than for previous vacancies.

The number of applications received cannot be regarded as the sole measure of ease of recruitment because it is not known how many applications the average candidate makes; some practices which received a comparatively high level of interest were unable to make an appointment because their chosen applicants had been appointed elsewhere. The qualitative data and free text comments, however, indicate that recruitment is causing short term problems in substantial numbers of practices, creating stress and decreasing morale. The lack of choice for practices may well have adverse effects on team harmony and practice development. Some of the practices' negative comments—for example, complaining of candidates' high expectations or having to appoint part time instead of full time partners—may turn out to have beneficial longer term effects.

Several characteristics had a significant influence on the response received. Training practices did not have more applicants but were more satisfied with their quality. Advertisements for part time partners received fewer applications, possibly because candidates are less likely to move to such posts, but practices were no less satisfied with their quality. We included on call work in the questionnaire because we thought it might be a potential deterrent to applicants, but practices doing

Table 4—Effect of percentage of practice list eligible for deprivation payments on response to advertisement

% Of practice list eligible for deprivation payments	No of practices	No of applications			χ^2	P value
		Median	0-7	≥8		
0	280	10	114	166		
1-19	84	6.5	45	39		
20-79	42	6	28	14		
80-100	32	5	25	7	24.45	<0.0001
Total responders	438	8	213	227		

Key messages

- There are widespread difficulties in recruiting general practitioners.
- In the short term recruitment is time consuming and stressful for practices.
- In the longer term the development of a primary care led national health service may be hindered.
- Practices in inner city and deprived areas have the most recruitment difficulties. Additional incentives are required to ensure high quality general practice in these areas with the greatest health needs.

entirely their own on call work received more applications than practices with access to deputising services or cooperatives. In view of the current debate it is interesting that fundholding status had no effect on ease of recruitment.

The most important finding from this study is that inner city practices and practices receiving deprivation payments attract fewer applicants. This may have always been the case, but the effects will be greater in the context of a general shortage. The relative reluctance of applicants to apply to deprived practices may be a reflection on the areas in which doctors wish to live, rather than a direct consequence of working conditions

in such practices. The result, however, is to make it harder to recruit good quality applicants to areas which have the highest morbidity. This study suggests that deprivation payments have not proved sufficiently effective in raising the popularity of inner city areas. Additional incentives will be necessary if an even spread of quality of general practice is to be achieved.⁷

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A simple algorithm to predict the development of radiological erosions in patients with early rheumatoid arthritis: prospective cohort study

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Abstract

Objective—To produce a practical algorithm to predict which patients with early rheumatoid arthritis will develop radiological erosions.

Design—Primary care based prospective cohort study.

Setting—All general practices in the Norwich Health Authority, Norfolk

Subjects—175 patients notified to the Norfolk Arthritis Register were visited by a metrologist soon after they had presented to their general practitioners with inflammatory polyarthritis, and again after a further 12 months. All the patients satisfied the American Rheumatism Association's 1987 criteria for rheumatoid arthritis and were seen by a metrologist within six months of the onset of symptoms. The study population was randomly split into a prediction sample (n = 105) for generating the algorithm and a validation sample (n = 70) for testing it.

Main outcome measures—Predictor variables measured at baseline included rheumatoid factor status, swelling of specific joint areas, duration of morning stiffness, nodules, disability score, age, sex, and disease duration when the patient first presented. The outcome variable was the presence of radiological erosions in the hands or feet, or both, after 12 months.

Results—A simple algorithm based on a combination of three variables—a positive rheumatoid factor test, swelling of at least two large joints, and a disease duration of more than three months—was best able to predict erosions. When the accuracy of this algorithm was tested with the validation sample, the erosion status of 79% of patients was predicted correctly.

Conclusions—A simple algorithm based on three easily measured items of information can predict which patients are at high risk and which are at low risk of developing radiological erosions.

Introduction

The development of radiological erosions in patients with rheumatoid arthritis is accepted as an objective and reliable outcome measure of the disease process.¹ Erosive joint damage tends to occur early in the disease, with 90% of patients who develop radiological erosions doing so within two years of disease onset.² It has been suggested that, to limit joint damage, disease modifying treatment should be started before patients develop erosions.^{3,4} Identifying which patients are at a high risk of developing erosions is therefore important in deciding appropriate management.

Several studies have examined the ability to predict which patients with rheumatoid arthritis will develop erosions, although their findings have been contradictory.⁵ One reason for the lack of consistent findings is the varied strategies used to recruit the study populations. Most studies recruited patients from hospital outpatient clinics, thereby missing individuals managed solely by their general practitioners. Some studies were based on retrospective recruitment and so missed patients who had gone into remission. In this report we used a unique prospective cohort of individuals who presented to their general practitioners with a new onset of inflammatory polyarthritis. We aimed to identify those patients presenting with early rheumatoid arthritis who would subsequently develop radiological erosions, on the basis of clinical variables at presentation that were easily measurable. To validate the findings, we tested them in a further independent sample.

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