

PRACTICE OBSERVED

Practice Research

Family doctors: their choice of practice strategy

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Abstract

The economic decisions taken by family doctors in one family practitioner area in the north of England were examined. There was evidence of a differential response to professional and economic incentives by a group of "high investing" practices. On five indicators of improvement in practice 32% of the practices accounted for 71% of the positive scores. Nearly all the high investing practices were in affluent areas; they were on average larger and had younger partners than the other practices. The high investing practices also faced more financial problems. There was evidence that other doctors with long lists of patients had a different strategy of income maximisation. Innovation in primary care is not determined by attitude alone but also by objective factors such as age, location, and size of the practice.

Introduction

Family doctors are the recipients of much good advice on how to run their practices. The pressures on them to improve and change their services are increasing. There are new pressures from family practitioner committees directly and personally from regular visits to surgeons, and there will also be pressure as the planning role of the family practitioner committees develops. New professional standards are being set by the Royal College of General Practitioners' quality initiative,<sup>1,2</sup> and the government's recent green paper on

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primary care suggests a good practice allowance, which would mean that family doctors would have to provide evidence of the standard of service that they were achieving.<sup>3</sup>

There is a great deal of published material laying down what the family doctor should be doing.<sup>4-6</sup> Most of the recommendations seem to imply that family doctors can generate a development margin above their personal income and the basic running costs of the practice, which would be available for improvement of services. This indicates an optimistic view of the economic potential for general practice.

The aim of this study was to examine how family doctors have come to terms with the pressures of making economic decisions. The system of rules laid down by the review body gives one set of incentives,<sup>7</sup> but their impact on particular practices may be modified and affected by many factors, such as changes in the local population and the degree of competition from other practices. The study aimed at looking at things from the family doctor's point of view by collecting evidence on the strategies that practices follow in adjusting to their local environment.

Practices make decisions about their "production function"—that is, the mix of capital and labour that they will employ. They also make decisions about the quantity of output in terms of medical services that they are aiming at. All of these decisions have certain returns for the doctors' income, for the degree of risk that they face in the future, and for the distribution of time between work and leisure. Doctors have to take decisions about how many partners to employ, the location of the practice, the location of the buildings and equipment. Other decisions might be reviewed regularly on the pattern of staffing, the pattern of surgeries, and the types of services (or offers, such as special clinics or services to particular groups of patients).

In addition to these decisions on practice strategy which are made continuously by individual practitioners are also made as part of the clinical work, the policy being planned afterwards. They are outcomes rather than plans as far as the practice is concerned. These include the consultation rate, the pattern of prescribing, and the pattern of referral. Previous work on what determines these

were small and often struggling in areas of static or declining population. They include several doctors from ethnic minorities.

The high investors represent the approved group who have changed their practice decisions in response to incentives to employ staff, improve premises, and take part in training schemes. What were some of the characteristics of doctors in these practices that might explain why they had adopted these strategies? We looked at the characteristics of the partnership itself, the characteristics of its external environment, and the background and attitudes of the partners. The importance of the decisions made by the high investing partners is shown by their willingness to invest large sums in their premises, the mean capital value of the high investing practice being £115 000 compared with £32 000 for the other practices (table IV).

The high investing practices were larger: the mean number of partners in these practices was 4.1 compared with 3.2 in the other 17 practices. These practices were more likely to have female partners: five compared with four in the remaining 17 practices. They were located away from the declining industrial eastern sector of the area: only one of the eight practices was in the east, whereas eight of the 17 remaining practices were located there. The high investing practices were more likely to be in areas of new housing and of expanding population. Partners in the high investing practices were significantly younger: average age 39.5 years against 47.4 years in the other practices. The personal background of doctors in the high investing practices suggested that they were more likely to be influenced by professional incentives to change and improve their practice. For example, 56.5% of doctors in these practices were members of the Royal College of General Practitioners compared with 10% of doctors in other practices (table V). They were also less likely to have paid employment outside general practice.

TABLE V—Professional characteristics of the doctors in each practice category

Professional characteristics	High investors n=21	Intermediates n=20	Low investors n=9
No. of postgraduate qualifications per doctor	1.43	0.80	1.00
No. with membership of Royal College of General Practitioners	13 (56.5)	2 (10)	1 (11.1)
No. with membership of BMA	22 (95.7)	13 (65)	7 (77.8)
No. with having regular extra practice work or part	12 (57.1)	13 (65)	6 (66.7)
No. with regarding themselves as mainly a generalist in terms of general work	8 (38.1)	13 (65)	7 (77.8)
No. with having special interests within general practice	13 (54.5)	4 (20)	1 (11.1)
No. with both partners and operators	2 (9.5)	2 (10)	1 (11.1)

practice and seemed to have a different view of their own role, being more likely to see themselves as having special interests within general practice. Opinions on practice strategy and on appropriate incentives in general practice also differed. The high investors felt under more pressure and at times less able to cope (table VI). They expected more changes in services in

TABLE VI—Response of doctors in the three practice categories to statements about general practice percentages in parentheses

Agreeing that	High investors n=21	Intermediates n=20	Low investors n=9
The principle of fee for service should be extended to other areas	13 (56.5)	7 (35)	3 (33.3)
It is very important to have a large list of patients in order to maintain a reasonably high income	5 (23.8)	4 (20)	4 (44.4)
I would be prepared to make more change and improvements in services over the next three years	14 (66.7)	10 (50)	5 (55.5)
I can cope with these normal working hours in general practice	12 (57.1)	12 (60)	6 (66.7)
I am sometimes under pressure to complete all that needs doing in a week	10 (47.6)	8 (40)	3 (33.3)
I am often unable to attend to my patients and prepared to see more time devoted to home work in the future	2 (9.5)	2 (10)	2 (22.2)
I am keen to reduce the number of home visits and to replace them with other forms of service such as telephone consultations	4 (19)	1 (5)	0

the future, were more likely to want to reduce home visits, attached less importance to a large list of patients, and wanted to see fees for service extended. Thus the practice decision seems to have helped to bring about a different set of attitudes on how the work should be carried out and paid for. They seemed, however, to expect more stability in income and list size in the future than they had experienced in the recent past. Table VII compares their expectations with their recent experience. They seemed to think that a practice had been struck and that fewer changes were to be expected in the future than had occurred in the past. Such prognostications have to be set against the information available in practices about the structure of income and of costs, which was not very complete, but most of the senior partners in the high investing practices were concerned about recent changes in their costs. Two of the eight practices had decided to raise their income from fees for service. The high investing practices with growing lists of patients were having the fewest problems.

TABLE VII—Experience and expectations for rate, partnership size, and workload (mean and percentage of doctors in high investing practices)

	Recent past experience	Expectations in three years' time
List size	11.4 (7)	2 (8.7)
Partner	3.1 (6)	3 (19.1)
Workload	5.2 (11)	12 (52.2)
No. of partners		
Male	3 (25.9)	6 (26.1)
Female	3 (25.9)	3 (12.3)
Sum	15 (62.5)	17 (73.9)
Percent of work		
Male	12 (52.2)	9 (39.1)
Female	3 (12.3)	3 (12.3)
Sum	15 (62.5)	12 (52.2)

Thus a high investment strategy was related to the size of the practice, the location, and the professional background and views of the doctors. The low investing group had low experience, long lists of patients, and the ability to maximise net income. In the middle the practices were much more varied. One or two were moving towards the high investor group and were considering taking part in the cost-rent scheme. But many of the others were struggling for survival in the face of declining list size, relatively low incomes, and little professional contact.

Discussion

General practice is often referred to as an entity and general practitioners as a homogeneous group. Many attempts have been made, with both education and incentive, to persuade this group of general practitioners to act in certain ways and not in others. The evidence from our study suggests that innovation will be very strongly related to certain characteristics of the partnership and the partners. The two initial hypotheses were clearly supported. There was a differential response to professional and economic incentives. Almost 32% of the practices (36.3% of the doctors) in 48% of the population in the area had made related and consistent decisions on staffing, premises, and practice organisation that are usually taken as indirect evidence of concern with quality. The response was greater in practices in areas of expanding to middle-class population. Innovation was typically found in large practices in areas that were more socially attractive.

On the third hypothesis, that the high investors would experience the greatest financial difficulties, the evidence was also generally favourable. Their costs were higher, and their practice strategy had not given them a higher level of net income than other practices: those high investing practices with declining list size were facing serious problems. The others seemed to be more stable. Some of the investments had been made only recently, and given this and the poor quality of the financial information available in the practices, the longer term consequences were much less clear. It was clear, however, that their decisions had entailed a higher degree of risk of capital debt than the other practices had.

The recent government green paper on primary care suggested a range of incentives to bring about change in primary care. Any new

outcomes suggests that they are mainly related to subjective factors in differing clinical judgment.<sup>8</sup> They do not seem to be related to objective factors such as the doctor's age or size of the practice.

Methods

The research was carried out in a family practitioner committee area in the north of England in one medium sized town and its environs, on either side of the Pennines. It has a central core, working class estates, some suburban housing developments, and many small villages. It is self contained and at some distance from other towns or cities. The total population of the study area was 228 075.

There were 37 practices in the study area with 106 family doctors. Eight of these were single-handed practitioners who were excluded from the study. Thus 29 partnerships remained of which 25 agreed to take part in the study. Table I gives partnership sizes and participation rates.

TABLE I—Participation rate of practices in the study area

No. of partners	No. of practices	No. of participating practices	% Participation
1	8*	0	0
2	10	4	40
3	7	6	86
4	6	6	100
5	2	2	100
6	0	0	0
Total	37	25	

\*Excluded from study

The research was carried out in two stages. The researchers visited the practice to interview one of the senior partners. During this interview a questionnaire was completed covering size of partnership, history of the practice, services provided, and the gross and net income of the practice as a whole. A separate questionnaire was left for each partner to complete and return by post. The response rate was 86% for the practice questionnaire and 55% for the individual questionnaires.

The study aimed at testing three hypotheses: (a) There will be a differential response to professional and economic incentives; (b) The response will be affected by the type of local population and by changes in the local population. More innovation would be found in affluent areas, especially if the population was expanding; (c) The practices that had made the greatest attempt to develop and improve their services would face the greatest financial pressure.

The study area was divided between the older industrial area on the east, and the central core and more prosperous suburban areas. Table II gives the social characteristics of the sections of the district.

TABLE II—Socio-spatial characteristics of the family practitioner committee study area in the 1981 census (Figures are a percentage of the permanently registered population)

Characteristic	East	Central/core	Family practitioner committee area
One parent families	2.00	1.43	1.78
Unemployed	3.05	4.40	3.90
Unemployed males	11.10	8.99	10.00
Unemployed females	3.21	2.90	2.35
Overcrowded housing	0.80	0.20	0.50
Ethnic groups	0.28	0.34	0.37

Source: 1981 census.

Results

The data from the 25 practices were organised first by whether the practice had adopted certain innovations that are usually considered signs of professional quality: (1) employment of a practice nurse; (2) an improvement in premises achieved through the cost-rent scheme; (3) participation in the vocational training scheme; one or more partners are trainers within the practice. These three practice characteristics are measurable, and there is no doubt of their importance in showing that the partners were willing to

incurs costs and, in the case of the vocational training scheme, that the practice has been able to meet standards set by others. In addition, practices were ranked by two further criteria which are less easy to measure. III) where differences may be important if found in conjunction with the other factors.

IV) Possession of diagnostic equipment in the practice. Information was collected on various types of equipment that were on the premises and also about doctors' views on equipment that was not in the practice which would be of use to them. Possession of an electrocardiograph seemed to be the key dividing line. In the 17 practices that did not have one general practitioners from 11 (65%) of these practices expressed a desire to own one. Of the 37 doctors that did not have access to one at their premises, 17 (46%) specifically mentioned in an open ended question that they wished to own one. (c) The development of service innovations defined in terms of special programmes in prevention and treatment that required the doctor to contact patients: these included hypertension clinics, his vaccination programme, follow-up clinics for patients with diabetes, and employment of consultants.

To select high investing practices the criteria was whether they had at least two of the three clearly measurable characteristics (i, ii, iii). Taking all five characteristics the eight high investing practices accounted for 27 positive scores against 11 for the 17 other practices. For characteristics i-iii the scores were 18 against 6. Five of the eight practices employed nurses compared with two of the other 17 practices. Seven of the eight practices had taken part in the cost-rent scheme compared with two of the other 17. Six of the eight were training practices compared with two of the other 17. Four of the eight had made innovations in services, and these were found in only two of the other practices.

The indicators define a group of high investing practices. The data on net income, list size, and the age of partners showed that there were further significant differences within the group (Table III). As table III shows, certain practices had higher average list sizes at the time of the study and in the past; had higher average net income, and had lower costs per patient. For

TABLE III—List size, income, and age of partners by practice category

	High investors n=21	Intermediates n=20	Low investors n=9
List size per partner:			
Now	2 123	2 103	2 683
5 years ago	2 201	2 332	2 680
10 years ago	2 386	2 532	2 522
No. of responding practices	11	11	4
Average gross income per partner	36 250	30 300	30 500
Average net income per partner	21 400	21 300	25 000
Ratio net/gross income	0.648	0.673	0.749
Cost per patient (pence) (E)	1.28	1.90	1.25
No. of responding practices	8	9	4
Average age per doctor (years)	39.5	43.1	51.4
Average list size (patients) (years)	19.9	10.3	15.6
No. of responding practices	19	19	9

TABLE IV—Capital value of premises and practices operating from a health centre by practice category

	High investors n=21	Intermediates n=20	Low investors n=9
No. (%) with most premises in a health centre	2 (25)	5 (45.5)	3 (50)
No. of responding practices	8	11	6
Mean capital value of premises (E)	115 000	31 500	33 300
No. of responding practices	7	6	3

the group of six low investor practices practice costs were 25% of gross income compared with 35% for the high investor practices. These six practices were also distinguished by the relatively high age and long service of the doctors working in them. Our views suggested that this model of general practice was declining, with poor premises and short consultations but the ability to care for extremely large numbers of patients. These low investing doctors also tended to have their main premises in health centres, which may help to explain why their costs are so much lower (table IV). Our classification leaves a middle group of intermediate practices that are neither investing heavily nor achieving high incomes. These partnerships

measures would be added to the continuing professional incentives and established financial incentives such as the cost-rent scheme, which is likely to continue. The evidence suggests that certain key variables such as age, size of partnership, and the environment of the partnership may influence the response to incentives in a systematic way. In broad terms younger doctors in larger partnerships are much more likely to innovate. The forces operating locally may bring about much greater differentiation within general practice. The evidence points in two directions: firstly, to new policies to help practice viability in areas of declining population and not just in the inner cities; secondly, for encouraging the formation of larger partnerships and for incentives to early retirement.

If the aim is innovation and development in primary care the economic determinants of innovation in terms of age, location, and practice size become highly relevant. The existence of a development margin in general practice cannot be taken for granted: in fact a declining average list of patients will create even further pressure on it over the next few years. In some cases strong professional aspirations may overcome the economic obstacles; but this too cannot be taken for granted. Practice strategy is affected by economic forces and constraints operating locally.

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Randomised controlled trial of computer assisted management of hypertension in primary care

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Abstract

The hypothesis that general practitioners would obtain better outcomes for patients with hypertension using a computer than doctors not using a computer was tested. Sixty family physicians were randomised to two treatment strategies. "Test" physicians completed a data collection form after each visit from a patient with hypertension and mailed the forms to the test centre for processing. Computer feedback on management was mailed to the doctors. This encouraged doctors to apply the "stepped care" protocol, supplied charts of diastolic blood pressure to time, and ranked patients' diastolic blood pressures by percentile. Letters were mailed to patients to remind them of appointments. "Control" doctors filled out the same data collection forms as test physicians, but neither doctors nor patients received computer feedback.

Physicians who used the computer saw more patients per practice than control doctors (test 50 patients, control 40). For all

patients the length of follow up was significantly longer in test practices (test 199 days, control 167), and a smaller percentage dropped out of active treatment in test practices (test 37.5%, control 42.1%).

For patients with "moderate" hypertension of a baseline diastolic pressure of >104 mm Hg the mean score of the last recorded practice visit was below the goal of 90 mm Hg in test practices (88.5 mm Hg), but it failed to reach this goal in control practices (93.3 mm Hg). A greater average reduction of diastolic pressure was achieved in test practices (test 21.7 mm Hg, control 16.7 mm Hg). Though patients with "moderate" hypertension were better controlled in test practices than in control practices, the patients in test practices visited their doctors less often (test 13.2 visits per patient-year, control 17.4 visits).

Among patients who newly detected hypertension test practices achieved a greater reduction in diastolic pressure than control practices (test 15.1 mm Hg v control 11.3 mm Hg) and more sustained control of hypertension (test 323 days per patient-year with a diastolic pressure of 90 mm Hg or less v control 259 days).

Introduction

Computer technology has been used in many health care activities. Much previous work in computer assisted management of hypertension has been carried out without control groups, making quantitative evaluation of those interventions impossible. Apart from one experiment that showed improved follow up of patients with hypertension using computer generated reminder letters of appointments,<sup>1</sup> the results of clinical trials have shown no association between management of hypertension using a computer and better patient outcomes.<sup>2-4</sup>

Previous studies took place in university teaching centres, and none was representative of the community based, primary care

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