PRACTICE OBSERVED

Practice Research

Do general practitioners have different "referral thresholds"?

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One of the most interesting puzzles in general practice is why doctors differ so greatly in the frequency with which they refer patients to hospital. Published figures range from less than 0·5 to more than 15 per 100 consultations,[1] and from only 0·6% to 25·9% of patients on a practice list a year.[2 3] Obvious differences in patient characteristics, such as age, sex, social class, type and severity of problem, and distance from the practice; in doctor characteristics, such as age, years in general practice and in a particular practice, special medical interests, and postgraduate training; and in practice characteristics, such as size of list, work load, urban or rural setting, partnership or single-handed structure, and distance from hospital[4–11] may explain many of these marked variations.

These differences in referral rates may also be explained by what other authors have called a "referral threshold"[3 4 12]—that is, doctors have a personal level at which the stimulus of a consultation produces a referral. This concept would be supported if doctors were observed to refer at dissimilar rates even when patient, doctor, and practice characteristics were the same. Unfortunately, only a few studies[4 7] of the referral process have controlled for more than one of these characteristics at a time.

Since 1971, the general practice partnership of one of us (BJ) has kept extensive records on every consultation. The size and detail of these data allowed us to carry the observations of previous workers one step further—we compared the referral rates of several doctors while a number of patient and practice variables were controlled. Our purpose was to examine the hypothesis that general practitioners have a personal referral threshold. Practice characteristics were the same for each doctor in the group practice. Our premise was that if adjustments were then made for differences in patient characteristics and the doctors still had different referral rates, then the existence of a referral threshold was supported.

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Methods

THE PRACTICE

The practice is located in the inner London Area Health Authority of Kensington, Chelsea and Westminster. Medical problems in this area have been discussed before.[13 14] The demographic structure of the practice list is roughly comparable to that of the population of inner London.[14] The prevalence of organic illness in the practice area is similar to that in the rest of the country, except for excessive rates of psychosocial problems.[15 16] The practice includes students at a college of London University (9·8% of all consultations) and residents of a nearby council housing estate (17·8% of all consultations).

GENERAL PRACTITIONERS

There were four general practitioners in this practice from 1974-8 (three at any one time, as there was a change of partners in 1975). They are designated as A, B, C, and D. They had the following characteristics:

Doctor	Age (1974)	Sex	Years' experience as GP at start of the study	Time in the study (years)
A	43	M	9	4½
B	41	M	3	5
C	29	M	3	5
D	27	F	1	3½
E	—	—	None	5

termination of pregnancy, sebaceous cysts, deafness, neuroses, viral warts) were referred often enough to allow comparisons between doctors' referral rates for the same problem. Again, marked and significant ($p < 0.001$) differences persisted between the five doctors, both before and after standardisation for age, sex, and social class.

Discussion

Previous reports suggest that the well-known differences in referral rates of general practitioners are due to disparities between the practices, the patients, and the practitioners.[1 3] We isolated the effect of practitioner differences by two techniques. Firstly, we studied a single group practice. This decreased any practice variations. Secondly, we standardised for important patient dissimilarities, including (in six instances) the type of problem. The unadjusted referral rates of these doctors were definitely different, and remained so even after standardisation for the patient characteristics of age, sex, social class, and diagnosis. These persistent differences support the hypothesis that general practitioners refer patients at different rates not just because the patients are dissimilar, or because the practice settings vary, but also because doctors have unique referral thresholds.

The idea of a referral threshold unique to one doctor probably combines all those characteristics of doctors that might bear on referral habits: training, experience, tolerance of uncertainty, sense of autonomy, personal enthusiasms. All of these characteristics operate through a final common pathway—an individual doctor's referral threshold. Taken together, such characteristics form a general practitioner's broad attitude towards referrals.

Certainly these data are not definitive proof of referral thresholds. A completely fair comparison of doctor referral rates would require the impossible—that the same patient consult every doctor. In addition, we could not control for the severity of the problems, which other studies suggest affect referral rates,[3 4] nor could we examine the many diverse purposes general practitioners might have for referring patients, such as patient reassurance, confirmation of diagnosis, and technical assistance.[5 14]

Unexpectedly we noted interesting social-class effects on referrals. Patients in social classes IV and V were referred fewer times per 100 consultations, but they had more consultations per individual patient. This higher consultation rate is consistant with data from the General Household Survey,[16] which noted more health problems and more general practice consultations per patient for individuals in social classes IV and V. When adjusted for differences in consultations per patient, individuals in social classes IV and V had higher referral rates than individuals in social classes I and II. Possible interpretations of these data are that people in social classes IV and V are more likely to consult several times for simple problems that do not require referral; that people in social classes I and II make fewer consultations for a problem before the general practitioner decides to refer them; and that people in social classes IV and V have more illness—they therefore require more consultations with their general practitioner and more referrals to specialists.

One may argue that our study simply confirms conventional wisdom: everyone already knows that general practitioners have different and very personal attitudes towards the referral of patients.[1 11–13 17] It may be valuable, however, to support conventional wisdom with firm data. Meticulous comparisons by Morrell *et al* of referrals from three general practitioners in the same practice showed different referral rates between the doctors despite adjustment for age and sex, social class, diagnostic group, and type of consultation.[4] Our study, which had much larger numbers, carries their observations further by adjusting simultaneously for several of these variables. Rawnsley and Loudon, in an elaborate nine-year study of referrals to psychiatrists by eight doctors in South Wales, also detected marked differences in referral rates that could not be explained by social, demographic, or clinical differences between the populations at risk for referral.[7]

A summary term such as "referral threshold" fails to capture the rich variety of decision making in general practitioners' referrals to hospital. Our evidence suggests that referral thresholds exist, but a referral is certainly a much more complicated event than such a simple term implies. The complexity of doctor-patient interactions and of decisions to refer a patient can only be suggested by an analysis of objective data.

Conclusions

This study compares the referral rates to outpatient departments of five general practitioners located in the same inner-London practice. Data collected over five years (1974-8) on 65 538 consultations and 3545 referrals were analysed. We observed significant differences in the number of referrals per 100 consultations by these doctors ($\chi^2 = 111$, $p < 0.001$). When standardised for important patient characteristics of age, sex, and social class, overall referral rates remained significantly different ($\chi^2 = 86$, $p < 0.001$). Referral rates for each of six specific problems were also different between doctors, and remained so after standardisation for age, sex, and social class ($p < 0.01$).

These persistent differences support the idea that doctors have unique "referral thresholds," which may explain much of the well-known variation in general practitioner referral rates.

We gratefully acknowledge the work of the other doctors in this practice: Drs H Levitt, P Read, A Elder, and S Webb; also the five practice trainees; the practice manager, Mrs H Levitt; the receptionist staff; and the computer unit of St Mary's Hospital Medical School.

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In addition, five trainees each practised an average of 11 months during the study period. Since the trainees were roughly comparable in previous general practice experience, we combined their consultations, and in the analyses their performances are considered as that of a single practitioner, designated "E." All of the doctors obtained their medical qualifications from medical schools in England. Additional postgraduate experiences that might have affected referral rates included psychiatry (A had been a registrar in psychiatry), medicine (B was a member of the Royal College of Physicians), Balint group training (B, C, and D), and one of the trainees (E) was an experienced obstetrician and gynaecologist.

DATA COLLECTION AND ANALYSIS

Details of every consultation from 1971 to the present have been collected. The five years from 1974 to 1978 were chosen for analysis. Referral frequency in this study is expressed as referrals to hospital outpatient departments per 100 consultations. Since we concentrated on referrals from a general practitioner to a consultant, we excluded referrals to casualty (280) and to non-hospital agencies (3603).

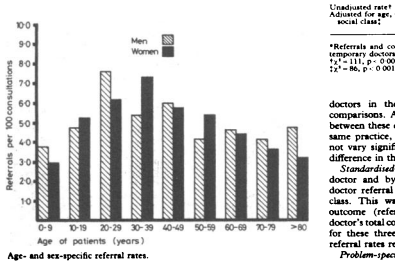
The following patient variables were available for analysis: age, sex, social class (as defined by the 1971 occupational groups of the Office of Population Censuses and Surveys), diagnosis, time on the practice list, and location of the consultation (surgery, home, or college). Individual referral rates were standardised to the referral rates of the entire practice by using the indirect method of standardisation. In this method the referral rates of the whole practice were applied to each doctor's observed number of consultations to calculate an expected number of referrals. Division of the observed referrals by the expected referrals provided an indirectly standardised referral ratio (SRR). Then the product of the SRR and the overall practice referral rate yielded the standardised referral rate.

Results

During the five years of the study 7329 registered patients consulted the practice 60 366 times; an average of 5377 patients were on the practice list throughout this period. This high turnover (27% of registered patients left the practice in five years) is typical of inner London.[10 14] Consultations from temporary residents increased the total number to 65 538. From these total consultations 3545 referrals were made to hospital, giving an overall referral rate of 5·4 per 100 consultations. Alternatively, calculated as referrals per 100 patients on the lists, the rate was 13·2. About 3% of referrals were to non-National Health Service hospital specialists.

PATIENT CHARACTERISTICS

Age and sex—The figure shows specific age and sex referral rates for the practice.



Age- and sex-specific referral rates.

Effect of social class—Table I shows the differences in referral rates between the five OPCS social classes. (Full-time students were classified in social class II, and married women who worked more than 20 hours a week were classified by their, rather than their husband's, occupation.) There was a clear decrease in rates from social classes I and II to social classes IV and V. This gradient existed among all five doctors, and remained after standardisation for age, sex, and marital status. It was noted, however, that individuals in the five social classes consulted the practice at different frequencies: I, 1·9 consultations per person a year; II, 1·7; III, 2·6; IV, 3·0; V, 3·1. When referral rates for the five social classes were then adjusted for the differences in consultations per individual (observed referrals were divided by expected consultations, assuming each social class consulted with the same frequency as all classes), the social class effect on referral rates remained highly significant but the pattern was reversed: I, 5·5 referrals per 100 individuals; II, 5·6; III, 6·4; IV, 6·7; V, 7·0.

TABLE I—*Referral rates per 100 consultations by general practitioners and by social class*

Social class	Whole practice	Dr A	Dr B	Dr C	Dr D	Dr E
I Professional	6·5	6·8	5·8	4·3	8·2	6·4
II Intermediate	6·6	7·5	5·6	5·0	6·7	6·8
III Skilled	5·4	6·8	3·7	4·7	5·5	6·1
IV Semiskilled	4·9	4·2	4·4	3·6	5·1	5·6
V Unskilled	4·7	4·7	2·8	4·0	5·1	5·8

Time on the lists, marital status, location of consultation—We compared each doctor's patients by time on the list, marital status, and location of consultation (surgery, home, or college). Though various patterns were observed for each doctor, there were no significant differences between either those patients who consulted or those who were referred. Therefore, these factors were not analysed.

GENERAL PRACTITIONER REFERRAL RATES

Unadjusted—There was no relation between referral rates and the age and the years of experience of the general practitioners. For example, the two highest referral rates belonged to the two doctors who were, respectively, the oldest and most experienced, and the youngest and least experienced (table II). Because the number of doctors in the study was small we could not make extensive comparisons. As expected, the absolute differences in referral rates between these doctors of similar age and training, and working in the same practice, were not great. Though certain pairs of doctors did not vary significantly, there was, nevertheless, an overall significant difference in the referral rates ($\chi^2 = 111$, $p < 0.001$).

TABLE II—*Referral rates per 100 consultations by whole practice and by general practitioner; crude, and adjusted for age, sex, and social class*

	Whole practice	Dr A	Dr B	Dr C	Dr D	Dr E
Referrals/consultations	3545/65 538*	521/7814	706/16 598	999/16 859	878/14 218	428/9698
Unadjusted rate†	5·4	6·7	4·3	5·9	6·2	4·4
Adjusted for age, sex, and social class‡	—	6·4	4·3	5·8	5·8	4·5

*Referrals and consultations for the whole practice include 13 referrals made by temporary doctors out of 351 consultations.
†$\chi^2 = 111$, $p < 0.001$, for differences in referral rates between doctors.
‡$\chi^2 = 86$, $p < 0.001$, for differences in referral rates between doctors.

Standardised—Cross tabulation of referrals and consultations by doctor and by patient variables showed that for comparison the doctor referral rates should be standardised for age, sex, and social class. This was because these patient characteristics affected the outcome (referral) and were unevenly distributed between each doctor's total consultations. Table II gives the referral rates standardised for these three variables and shows that the overall differences in referral rates remained highly significant ($\chi^2 = 86$, $p < 0.001$).

Problem-specific—Six specific problems (disorders of menstruation,

Pitfalls in Practice

Employment law

IV: Can I still dismiss?

NORMAN ELLIS

Many employers, particularly those with no more than a handful of staff, are fearful about the prospects of dismissing staff. Some even believe that the right to dismiss has been taken away from them by current employment legislation. This is not true. An employer still has the right to dismiss an employee, but if the procedure adopted and the reasons for the dismissal are not demonstrably fair then substantial compensation may be awarded to the employee.

Poor management

In fact it is usually the employer who has neglected his management responsibilities who is at risk of being involved in an unfair dismissal case. Many of the difficulties that doctors experience with ancillary staff originate from an unsatisfactory approach to their selection, recruitment, training, and supervision. In a previous article Dr John Oldroyd provided a case study showing the many pitfalls that force the doctor who ignores his responsibilities as a manager. A brief reminder of these responsibilities may be helpful. Firstly, at the outset, when a new member of staff is recruited, it is essential to have an accurate job description and to adopt a proper procedure for the interview and selection. Secondly, when an offer of a job is made both the doctor and the employee should be aware of the importance of the probationary period. Its length may vary, but I would recommend nine months. This allows sufficient time to make an assessment of the employee. Only after months before the completion of one year's service, the point after which many individual employment rights begin to apply.

The probationary period is crucial. But before we start thinking of what action may be required to improve performance in the job, a new member of the staff should be told what is required and given every encouragement and assistance to do the job satisfactorily. Many employers seem to forget the obvious and essential need to explain to new staff what is required of them. If this is done and performance then falls below the required standard, steps must be taken to inform the employee of this and to encourage him or her to improve. At each stage a written record must be kept for future reference, and if the point is reached when it seems that satisfactory performance cannot be achieved, then the employee should be informed in writing that the probationary period cannot be confirmed. This approach should be relatively easy to adopt for the doctor who employs only a handful of staff. Each step is logical and easy to follow. And it should minimise the risk of having to dismiss staff. In short, each employer should have a recognised procedure for handling disciplinary matters and grievances, and what has been described here is in fact the outline of such a procedure.

If, even after following this procedure, having taken all the necessary steps to ensure that newly recruited staff are satisfactory, it subsequently transpires that an employee who was previously satisfactory is no longer so, or that a serious offence is committed that requires disciplinary action, the doctor has the right ultimately to dismiss. But care must be taken to follow closely to the disciplinary procedure as stated in the contract of employment, and to keep a written record of the action that is taken.

Unsatisfactory staff

No doubt a few general practitioners employ staff whose performance is well below the standard required. This is probably a legacy of previous neglect of these responsibilities as employers—a casual approach to recruitment, inadequate training and supervision, and the probationary period has been omitted from the contract. The point has been reached where something should be done, but none of the partners has either the courage or inclination to do anything. Often the BMA member will turn to the BMA Regional Office for advice.

Although the position of staff who are unsatisfactory but have had long service with the practice is always difficult to resolve, it is not irretrievable. It must be remembered that the difficulty has been largely caused by inadequate management by the doctor, and great care will need to be taken if it is decided to proceed with disciplinary action, which may end in dismissal. The employee who has been working unsatisfactorily, often for many years, has strong grounds for arguing that his or her performance could be *presumed* to be satisfactory simply because no one had expressed any view to the contrary. The industrial tribunals almost invariably interpret the lack of any criticism from the employer as a reasonable basis for an employee presuming that his work was satisfactory. Thus the doctor's laudable efforts to retrieve a situation that has been allowed to drift for years and to act in accordance with his responsibilities as a manager may at first meet with considerable difficulties and require the advice and assistance of those who are well experienced in these matters.

What does dismissal mean?

Employees have the right not to be unfairly dismissed. Any employee who thinks he has been unfairly dismissed may seek a remedy by complaining to an industrial tribunal. Before a

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