A Study of the Referral Decision in General Practice

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The applicability of published models of the referral decision in general practice was investigated by asking general practitioners (GPs) to record data on consultations during which referral to a consultant's outpatient clinic was considered, whether this resulted in referral or not. The GPs were then interviewed about their decisions with particular reference to patient factors, clinical factors, their perception of the risk involved, consultant factors and time factors. The doctors varied in the weight that they gave to the patient's wishes, and also in their selection and interpretation of diagnostic data. Risk to the patient was rarely a major consideration; neither was risk to the doctor's self-esteem. There was virtually no evidence of conflict arising during the decision-making process, and doctors on the whole, did not feel pressed for time. This was, however, a self-selected sample of highly motivated general practitioners. It is suggested that the assumptions on which the conflict model of decision-making is based do not apply to the majority of referral decisions in general practice.

INTRODUCTION

Several studies have shown wide variation in the rate at which general practitioners (GPs) refer patients to hospital, and that this variation persists even when adjustment is made for the different age, sex, social class and diagnostic category distribution of the patients seen. In Morrell et al.'s study of three doctors over 1 year, there was a range of 1.54 to 2.73 referrals per 100 consultations. Wilkin and Smith found a 24-fold difference between the highest and lowest referrers in their survey of 201 doctors, but they only collected data over 20 working days. Moore and Roland suggested that random variation could produce this sort of difference over a short period of time. Hartley et al. found a 4-fold difference in referral rate in a study of 21 greater London doctors over 1 year, and a study in Milton Keynes and the Oxford region over two 11 week periods found about a 3-fold variation in referral rates between practices. This difference in referral rates has major implications for health service funding, and also for patient care. Quantitative studies have not been able to explain the residual variation between doctors, but Dowie's qualitative study of GPs' referrals suggested that the variability lay in the doctors' differing confidence in their clinical judgement, and differing clinical reasoning processes. She interviewed 45 GPs with reference to their referrals over the previous week, the hospital services available and their personal and practice characteristics. From the interview material, Dowie produced a model of the referral decision, based on the conflict theory of Janis and Mann. Conflict theory applies to decisions of real consequence, which generate psychological stress. The decision-makers are often under pressure of time, and may adopt defective decision-making strategies to avoid conflict and stress. The conflict in Dowie's model arises when not referring may put the patient at risk, but an unnecessary referral, by revealing lack of knowledge or clinical skill, may jeopardize the doctor's self-esteem.

Wilkin and Smith have produced a more general model (Figure 1), which they suggest is more widely applicable than Dowie's model. In both models, the GPs' estimation of risk to the patient of not referring, and of risk to their self-esteem if they do refer, are important components of the decision making. These models include negative decisions, which are difficult to study. Dowie asked in her interviews if the GPs could remember any occasions when they decided not to refer. In the study described here, GPs were asked to record data relevant to the decision to refer or not to refer immediately after the consultation, in an attempt to reduce the effects of inaccurate memory and post hoc rationalization. Therefore, the aim of the study was to identify some of the factors that affect GPs' decisions to refer or not to refer patients to consultants.

METHOD

The doctors in 13 practices in one training scheme in West Yorkshire were invited to participate. Nineteen doctors from seven practices accepted the invitation.
Patient presents with problem(s)

History and examination

Do I know enough about this patient and the problem(s) to establish appropriate treatment/management options?

YES

Can I provide all or any of other options?

All

SOME

NONE

No referral

Treat

Can I reasonably expect to obtain appropriate management through a referral?

NO

YES

Do the benefits to the patients of referral outweigh the costs when compared with alternatives?

NO

YES

Are there risks to my esteem if I refer now?

NO

YES

Procrastinate

Investigate

experiment

observe.

Are there any risks to my esteem if I refer now?

NO

YES

Have I the means (time, resources, facilities) to find out more?

NO

YES

FIGURE 1 General model of referral decision (after Wilkin and Smith, 1987)
Training practices were chosen because they had already collected data on the number of consultations and referrals in 1989 for each doctor. Details of the practice, the doctor and his referral rate over 1 year were collected. 

GPs taking part in the study were asked if they would complete a data collection form, summarized in Table 1, on each patient for whom they considered a referral to hospital over a 2 week period. This included consultations in which the patient, a relative or other professional suggested referral, or the doctor considered referral himself but decided against it at that time. The doctors were asked to exclude emergency referrals, domiciliary visits and referrals for obstetric care, termination of pregnancy, vasectomy and sterilization. The data collection form had previously been piloted on several non-participating doctors, and modified in the light of their comments.

TABLE 1  Data collection form

<table>
<thead>
<tr>
<th>Patient's name, age, sex and occupation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whether referred or not referred</td>
</tr>
<tr>
<td>How the question of referral arose</td>
</tr>
<tr>
<td>Number of consultations for same problem in the last 12 months</td>
</tr>
<tr>
<td>Symptoms and signs</td>
</tr>
<tr>
<td>Provisional diagnosis and other possibilities</td>
</tr>
<tr>
<td>Confidence in diagnosis</td>
</tr>
<tr>
<td>Perceived risks to the patient</td>
</tr>
<tr>
<td>Whether decision influenced by investigation results</td>
</tr>
<tr>
<td>Timing of decision in consultation</td>
</tr>
<tr>
<td>If referral was made:</td>
</tr>
<tr>
<td>reason for referral</td>
</tr>
<tr>
<td>specialty</td>
</tr>
<tr>
<td>why that consultant</td>
</tr>
<tr>
<td>what consultant was expected to do</td>
</tr>
</tbody>
</table>

The doctors were telephoned during the first week to remind them about completing the forms, and to answer any queries they might have. At the end of the 2 week period, the forms were collected, and the data summarized for each doctor. Tape-recorded interviews with the doctors were carried out as soon as possible after the data collection period, and not more than a week later. The interview was planned so that it would start with non-threatening material, but there would be ample time to discuss the less clear-cut cases. The interview schedule is summarized in Table 2, this outline being followed for each reported case. The interview schedule and the method of analysis had been piloted. The tapes were replayed soon after the interviews, transcribed and important themes noted. Some of the statements in the interviews could be cross-referenced with answers on the recording forms.

TABLE 2  Interview schedule

| Can you tell me about the circumstances leading to your decision to refer/not refer? |
| What were your feelings about the decision? |
| Probability of provisional diagnosis     |
| Knowledge and confidence                 |
| Investigations                          |
| Patient involvement                     |
| Risk                                     |
| Reasons for referral                    |
| Relationship with the consultant        |
| Time                                     |

RESULTS

Twenty doctors originally agreed to take part in the study. One doctor unfortunately went on holiday for 2 weeks after the recording and before an interview could be arranged. Data from this doctor were not included, as it was felt that the time period between recording and interviewing would be too great. The characteristics of the 19 participating doctors are summarized in Table 3. The annual referral rates per 100 surgery consultations varied from 1.7 to 7.1. The doctors returned 170 forms in all, on 168 patients. Two patients were included twice, referral having been considered on the first occasion and made on the second. One-hundred and thirty-one of the forms recorded decisions to refer, and 39, decisions not to refer at that time. Nine of these latter 39 patients had actually requested referral.

Completion of a data recording form for each consultation in which a referral decision was made was left entirely to the judgement of the participating doctor. On some occasions a fleeting thought of referral, instantly dismissed, would be recorded, and on others this would be counted as not having considered referral. Four doctors did not include any 'not referred' forms, and some doctors said that they felt they had not included all the 'not referred' decisions.

The qualitative data from the interviews were summarized under five broad 'theme' headings.

Patient Factors

Patient factors such as involvement of the patient in the decision, the effect of a particular patient and the doctor–patient interaction were the most common themes identified in the transcripts, there being 119 extracts in all on this subject. Patient factors were often mentioned spontaneously by the doctor after the opening question "can you tell me about the circumstances leading to your decision to refer/not to refer?" All of the doctors were asked how they felt about being asked for referral by patients. Seventeen of them said they generally did not mind if patients
Six doctors had made at least one referral each with the main purpose of reassuring the patient, for example: "I wouldn’t normally have referred a nose bleed for an ENT opinion, but I felt in this case there were anxiety factors on the part of the patient".

Most of the doctors in the study thought that wanting to be referred was not the prime reason for patients choosing to see them as opposed to other partners. The only doctor who felt sure that this type of selection went on was the lowest referring doctor, who thought that patients went to another partner to ask for referral. The highest referring doctor in this practice was asked for referral eight times in the recording period, and referred seven of these, whereas the other partners were asked none, once and twice respectively, and no referrals resulted from these requests.

Clinical Factors
There were 79 extracts relevant to clinical factors that influenced the referral decision. In general, the doctors attached more weight to the patient’s history than they did to clinical signs, especially where pain and discomfort were concerned.

Different decision rules were apparent, particularly for ENT referrals. One 6 year old child was referred...
Risk conditions. Some of these included referral as a risk of referring and risks of not referring. The referral itself, and several others mentioned both the data collection form meant only risks arising from the question "what risks to the patient do you see if confident to deal with a problem themselves. This was referred because they felt they lacked the necessary knowledge or skill to manage a patient, or did not feel confident to deal with a problem themselves. This was particularly so in the fields of ENT and ophthalmology.

There were two instances when doctors who had previously felt confident in their management of patients had to revise their ideas in the light of new physical findings. It seems that both doctors suddenly felt that their confidence was undermined. This led one of them to refer, and the other, who did not, to say: "I think anxiety levels rise and you think, oh my God, I've done this patient a disservice for the last 6 weeks, treating her as a back strain, and I really should get it sorted out quickly for her. Perhaps I should refer her".

**Risk**
Risk to the patient was usually discussed in response to the question "what risks to the patient do you see if the patient is not referred?" In 11 instances, the doctor thought that the risk to the patient of not referring was that they would remain in the same condition, and in 10 instances, doctors mentioned the risk of a disability developing or a condition worsening. In seven cases, the risk of malignancy or 'sinister pathology' was mentioned, but the risk was not considered to be great in five of these cases. Doctors referred to the risk of death in four cases. Two of these were medical: angina and asthma. The other two patients were thought to have personality problems, and were going through life crises. Although the doctors involved in both cases thought there was a real risk of suicide, neither patient was thought to be psychiatrily ill, and it was felt that referral to a psychiatrist would not have reduced the risk.

Several doctors assumed that 'risk to the patient' on the data collection form meant only risks arising from the referral itself, and several others mentioned both risks of referring and risks of not referring.

**Consultant Factors**
There were 66 extracts dealing with the relationship between the doctors and their consultant colleagues, and how this might affect the doctors' referral behaviour. The vast majority suggested a friendly, understanding and helpful relationship. In 22 of these extracts there was some hint that the consultant might not be pleased to see the referral, but the doctors still felt that the referrals were justified. In most instances the doctors said it had not occurred to them what the consultant would think, when making the decision to refer. Only two doctors expressed concern about what the consultant might think. One of these expressed dislike at sending something he knew he could deal with himself, but where the patient had insisted on referral. The other doctor said there was a fear that the consultant would think it a stupid referral, but he had pointed out in his letter that he was not familiar with the problem, and needed advice. Two of the more senior doctors suggested that they might have considered what the consultant would think at one time, but they had "got past that sort of thing".

**Time**
Time pressure in the consultation was not generally perceived as a problem in making referral decisions. There were, however, eight instances where the doctor 'created' extra time for the patient, either by using a separate examination room, arranging a further appointment or running late. In five instances lack of time was felt to be a problem. In four cases the doctors felt they did not have enough time to counsel the patient, and the fifth doctor thought he had not examined the patient fully because of time pressure, but had already decided to refer on the history alone.

**DISCUSSION**
This study was carried out on a self-selected group of GPs from a small number of training practices in one health district. Care should therefore be taken in making generalizations from these findings.

In some ways, however, the similarity of the subjects increases the interest of the findings, as less of the variation can be attributed to external factors. There was a 4-fold difference in the annual referral rates per 100 consultations, which is greater than that reported by Morrell et al.\(^1\) and Noone et al.\(^6\), but less than that reported from the north of England by Wilkin and Smith.\(^3\) The highest and lowest referring doctors in the study work in similar practices, and have similar outside commitments, but they were found to differ in their approach to patient's requests for referral.

There was some difficulty in deciding what actually constituted 'consideration' of referral. It cannot be assumed that the doctors who returned more forms thought about referral more frequently than those who returned only a few.

The transcripts of the interviews were analysed by one person, the interviewer, into broad themes. This is
Patient presents with problem(s)

History and examination

Have I the means (time, resources, facilities) to find out more?

YES

Discuss options with patient

G.P. investigates and may treat

NO

Discuss with the patient how the problem may best be solved

Patient agrees

Patient disagrees

Investigate/treat

Has this worked?

YES

Suggest referral if appropriate

Patient agrees

Suggest referral if appropriate

Patient disagrees

Investigate/treat

Patient agrees

FIGURE 2 An alternative model of referral decision
likely to lead to consistency in interpretation, but raises the possibility of personal bias. Themes were only extracted if the meaning appeared clear, but this of course involves value judgements.

The way in which the doctor and the patient interacted did appear to be a source of variation in referral behaviour, the marked difference between the highest and lowest referring doctors having already been mentioned. This is consistent with Armstrong et al.'s finding that GPs with a high referral rate reported significantly greater perceived pressure from the patient for referral.

There is limited evidence that differing interpretation of diagnostic data and different management protocols might lead to variation in referral behaviour. This study design is not the best way to look at this, as some of the conditions referred by some doctors might well have not even been considered for referral by other doctors, and so would not be included in this study.

The concepts of risk to the patient and risk to the doctor’s self-esteem are central to Dowie’s conflict model of the referral decision, and to the model of Wilkin and Smith. Several of the doctors assumed that ‘risk to the patient’ meant the risk of referral. When asked specifically about risk to the patient, in most cases they felt it not to be very great. Where they did perceive serious risk to the patient, none of them had any hesitation in referring if that was the appropriate management. Dowie assumed that referral decisions are ‘decisions of real consequence’, which may generate psychological stress. Most of the decisions considered in this study were not of that type. Even where the patient was perceived to be quite ill, there was no conflict as doctors felt these were entirely appropriate referrals.

What the consultant would think of the referral seemed to be irrelevant in many cases; in fact most of the referrals where doctors had reservations about what the consultant would think were those for trivial problems where there was virtually no risk to the patient.

The conflict model assumes that the decision maker is often under severe pressure of time, and so is less likely to conduct a careful search for information or appraise it correctly. The doctors in this study reported problems of time pressure in less than 10% of the cases. Conflict between the doctor’s perception of risk to the patient and risk to his self-esteem does not seem to be an appropriate model for the referral decision.

There was evidence that several of the GPs shared the decision-making with the patient, and it might be expected that this sharing of responsibility would reduce the onus on the doctor.

The present study emphasizes the importance of the patient’s view, which is not included in the previous models of the referral decision. It also shows that doctors vary in how they negotiate with patients when considering referral, and this might explain some of the variation in referral rate.

An alternative model of the referral decision is suggested in Figure 2.

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REFERENCES