Outcome of general practitioner referrals to specialist outpatient clinics for back pain

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SUMMARY. In 1983–84 general practitioners in the Oxford region kept records of their referrals to outpatient clinics over a period of six months. Five years later in 1988–89 the general practice notes of 182 patients referred for back pain were studied to determine the outcomes of their referral. The actions initiated in the outpatient clinics were compared with the general practitioners’ main reason for referral recorded at the time of referral.

Of the 182 patients 136 (74.7%) received specialist treatment following the outpatient referral despite the fact that general practitioners had given treatment as the main reason for referral in only 28.6% of cases. Patients’ mean consultation rate for back pain declined from 4.2 consultations per annum to 0.9 (P<0.001) over the five year period, but there was a small but significant increase in consultations for other problems. Five years after the referral 33.3% of patients were still consulting their general practitioner for back pain.

The referral system for patients with chronic back pain could be rationalised to reduce the need for re-referrals and multiple follow-up outpatient consultations. There is a need to improve communications between general practitioners, specialists and patients about the purpose of referral, the likely effects of treatment and the scope for prevention. A survey of the outcome of referrals for common conditions, such as back pain, is a useful first step in the development of referral guidelines.

Introduction

The government’s health service reforms include a number of features designed to focus attention on the interface between primary and secondary health care. These include the introduction of the general practice fund-holding scheme in which volunteer practices are given funds to purchase some hospital services, and the requirements for all general practitioners to provide an annual report to family health services authorities which includes details of the numbers of referrals made. In addition, the government hopes that audit groups will develop the means to assess the appropriateness of referral decisions.

Underlying these policy developments is a concern about wide variations between general practitioners’ referral rates and the implication that hospital resources may not be being used in the most efficient, effective and equitable manner. The government is attempting to tackle the problem by introducing a combination of management incentives and performance review, along the lines advocated by Marinker and colleagues in 1988.1 This is likely to lead to pressure on general practitioners to reduce their use of hospital services.

Much of the discussion about the need to reduce variations in referral rates has proceeded on the assumption that the major concern should be the outliers, in particular those heavy users of hospital services who, it is felt, may be referring many patients unnecessarily. However, others have argued that it is a mistake to assume that the mean rate of referral is necessarily the most appropriate rate.2-4 Instead of reviewing the atypical behaviour of a small minority of general practitioners, it might be more fruitful to conduct collective follow-up studies to examine the outcomes of referrals for particular common conditions.

This paper reports the results of a study designed to monitor the outcomes of referrals for one commonly-encountered problem, back pain, by means of a survey of general practice records. In the current absence of financial or other disincentives to refer, it has been estimated that there are around 330 000 referrals for back pain each year. The total cost of this condition to the health service in 1982 was estimated at £156 million, or 1.15% of total National Health Service expenditure.5 By examining the experience of a group of patients who have been referred to specialist outpatient clinics for this problem, ways in which this substantial demand on hospital resources might be channelled more efficiently and effectively can be explored.

Method

In 1983–84 a large-scale study of general practitioners’ referrals to outpatient clinics was coordinated. The method has been reported elsewhere,6-8 but in brief the study involved 127 general practitioners in 33 practices in the Oxford regional health authority area who kept records of 18 754 outpatient referrals over a period of six months (index referrals). At the time of the index referral general practitioners completed a standard form which requested details of the patient’s date of birth and sex; information about themselves, and the specialty, hospital and district to which they were making the referral; and their diagnosis and the main reason for the referral.

Five years later, in 1988–89, the general practice notes of patients who had been referred for back pain were studied. Patients referred for back pain constituted 2.7% of all the outpatient referrals recorded during 1983–84. The survey was conducted in 20 of the original 33 practices — those practices which had kept records of the names of patients referred in the original study. The notes of each patient with this condition who was still registered with these practices and whose notes could be traced were examined.

The survey was conducted by one of us (J B) between October 1988 and June 1989 using a portable computer and recording the data obtained from the general practice notes, including copies of referral letters and hospital discharge letters, in a standard format developed using the D-BASE III-Plus software package. The coding system for the database was developed following a pilot phase conducted in two practices using the notes of 25 patients referred for back pain. The following data items


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were collected: whether the index referral was a first referral for these symptoms, and if not how many referrals had been made; length of time between first record of symptoms and the index referral; length of time patient had to wait for an outpatient appointment; whether the patient attended the appointment; number of follow-up appointments; actions initiated at the outpatient clinic, that is investigations, treatment or advice; whether the patient was admitted to hospital; whether the patient had been referred for physiotherapy, or x-rays had been ordered prior to referral or at the outpatient clinic; general practice consultation rate in the 12 months prior to the index referral, following the outpatient consultation and before the survey of practice records; reasons for consultation in the 12 months prior to survey of records. The data were downloaded onto the university mainframe computer for analysis using the SPSS-X package.

Results

Patients

General practitioners in the 20 practices involved in the follow-up study had referred 345 patients with back pain, 159 men and 186 women. The notes of 182 (52.8%) of these patients were traced. The patients lost to follow up because they were no longer registered with the 20 practices were slightly younger (mean age 39.6 years) than those included in the study (mean age 45.6 years). Ninety four of the patients included in the follow-up study were men (51.6%) and 88 were women (48.4%). Thus, a higher proportion of women were lost to follow up (52.7%) than men (40.9%). This may be due to the fact that some practices had no system for tracing the maiden names of women who had married.

Of those patients with back pain whose notes were followed up, 14.8% were aged less than 30 years, 48.4% were aged 30–49 years, 29.7% were in the 50–69 years age group, and 60.0% were aged 70 years or over at the time of the referral (details of age were missing for two patients).

For 99 patients (54.4%) the index referral was the first time they had been referred for this condition, but 83 patients (45.6%) had been referred to an outpatient clinic at least once before for back pain; 15 patients had been referred on at least three previous occasions with this problem, one patient having been referred five times and another seven times. Table 1 shows the length of time between the first record of a general practice consultation for this condition and the date of the referral letter for the index referral. For 36 patients (19.8%) their first referral occurred within six months of their first consultation for back pain, but 108 patients (59.3%) had first consulted their general practitioner for this reason more than two years prior to the index referral. Many of the patients who had been referred on a previous occasion had a long history of consultations for this condition.

Referral process

The majority of the referrals were to NHS clinics, but 21 patients (11.5%) were referred privately. The patients were referred to a wide range of specialties. Most were referred to orthopaedic clinics (147, 80.8%), but eight patients were referred to rehabilitation departments, seven to rheumatology departments, five to physical medicine departments, five to general surgery departments, five to neurology departments, three to a pain unit, and one each to a neurosurgery department and to a general medicine department.

Excluding the private referrals and those patients seen within a week of referral (which can be assumed were urgent referrals), the mean waiting time from the date on the referral letter to the date of the outpatient appointment for the remaining 42 patients was 56.1 days (95% confidence interval 48.9 to 63.2 days). Fourteen of the 182 patients failed to attend the outpatient clinic for the index referral. Of the 168 patients who did attend, 92 (54.8%) were discharged after one outpatient appointment, with no follow-up action on the part of the specialist clinic. Of the remaining patients, 41 had one follow-up appointment, 11 had two, three patients had three, and six patients had four or more (there was no information about numbers of appointments in the notes of 15 patients).

Immediate results of the referral

The actions initiated in the outpatient clinics were compared with the general practitioners' main reason for referral recorded at the time of referral (Table 2). Three quarters of the patients (74.7%) received treatment in the outpatient clinic, despite the fact that the general practitioners had recorded this as the main reason for referral in only 28.6% of cases. Of those patients referred primarily for advice or reassurance, 68.5% received some form of treatment. Outpatient treatments included physical

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**Table 1.** Time between first record of symptoms in general practice notes and date of referral letter for index referral.

<table>
<thead>
<tr>
<th>Time delay</th>
<th>First referral (n = 98)</th>
<th>Second or subsequent referral (n = 82)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 1 week</td>
<td>2 (2.0)</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>1 week–1 month</td>
<td>10 (10.2)</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>2–6 months</td>
<td>24 (24.5)</td>
<td>1 (1.2)</td>
</tr>
<tr>
<td>7–12 months</td>
<td>10 (10.2)</td>
<td>4 (4.9)</td>
</tr>
<tr>
<td>13–24 months</td>
<td>11 (11.2)</td>
<td>10 (12.2)</td>
</tr>
<tr>
<td>25–60 months</td>
<td>11 (11.2)</td>
<td>15 (18.3)</td>
</tr>
<tr>
<td>Over 60 months</td>
<td>30 (30.6)</td>
<td>52 (63.4)</td>
</tr>
</tbody>
</table>

n = total number of patients in group. Records were incomplete for two patients.

**Table 2.** Actions initiated at the outpatient clinics compared with general practitioners’ main reason for referral recorded at the time of referral.

<table>
<thead>
<tr>
<th>GP's main reason for referral</th>
<th>Number of patients</th>
<th>% of patients receiving the following at outpatient clinics:</th>
<th>% of patients who did not attend</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Investigation</td>
<td>Treatment</td>
</tr>
<tr>
<td>Diagnosis/investigation</td>
<td>56</td>
<td>50.0</td>
<td>76.8</td>
</tr>
<tr>
<td>Treatment/management</td>
<td>52</td>
<td>40.4</td>
<td>76.9</td>
</tr>
<tr>
<td>Advice/reassurance</td>
<td>54</td>
<td>50.0</td>
<td>68.5</td>
</tr>
<tr>
<td>Other reason or not recorded</td>
<td>20</td>
<td>30.0</td>
<td>80.0</td>
</tr>
<tr>
<td>All reasons</td>
<td>182</td>
<td>45.1</td>
<td>74.7</td>
</tr>
</tbody>
</table>

NB Totals more than 100% because some patients had more than one action initiated in the outpatient clinic.
aids such as surgical corsets or plaster jackets, physiotherapy, spinal traction, hydrotherapy and manipulation, and oral and injected drugs. Twenty eight patients (15.4%) were admitted to hospital following the index referral, 13 of whom underwent surgical procedures.

Forty eight patients (26.4%) had been referred for direct access physiotherapy by their general practitioner prior to the outpatient referral and 41 (22.5%) were referred on for physiotherapy by the consulting doctor in the outpatient clinic. Thirteen patients were referred for physiotherapy both by their general practitioner and by the specialist. There was also evidence of some duplication in the ordering of x-rays: 75 patients (41.2%) had x-rays of the lumbar spine ordered by their general practitioner prior to the referral, and 41 (22.5%) had these tests ordered by specialists, for the second time in seven cases.

Outcome five years after the index referral

Table 3 shows the mean general practice consultation rates in three periods: 12 months prior to the index referral, 12 months following the first outpatient consultation resulting from the index referral, and 12 months preceding the survey of the records, that is, five years after the index referral. Mean consultation rates for back pain decreased over the five year period (paired t-test, t=12.0, P<0.001), but there was a slight increase in the rate of consultation for other problems during the same period (t=2.6, P<0.01). However, the overall consultation rate decreased significantly over the five-year period (t=6.4, P<0.001).

The record of consultations in the year prior to the survey of records (five years after the index referral) was used to assess whether or not the patients were still suffering from back pain. Table 4 shows the symptom prevalence at five-year follow up according to the length of time between first consultation for this condition and the index referral. Symptoms had apparently resolved for two thirds of the patients, but the proportion still consulting their general practitioners for back pain was much higher in the group who had first consulted for this problem a year or more prior to the index referral.

Discussion

Descriptive data of the type collected in this study can be a useful basis for the development of referral guidelines. However, there are some limitations to this method of survey. Any survey of general practice notes will be constrained by the quality, completeness and legibility of the records. Standards of record-keeping in the practices involved in this study were high, and the fact that the survey was undertaken by a health visitor with extensive experience of deciphering doctors' handwriting and medical terminology was a considerable advantage. Nevertheless, it was apparent that the notes and discharge letters were not always complete and this should be borne in mind when interpreting the results.

It is also worth noting that it was only possible to follow up 52.8% of the patients referred five years previously. This is in accordance with estimates of 10% turnover per year in general practice lists, but is an additional limitation to this method of long-term follow up. The patients who were not followed up were slightly younger and more likely to be women. It is possible that these patients had a better outcome than those followed up, but it seems unlikely that this has seriously biased the results.

Back pain is a common complaint: the proportion of people experiencing the condition over one year has been estimated at about 20%. Despite being the most important cause of activity restriction for those aged under 45 years, it has a high spontaneous recovery rate, two-thirds of patients reporting improvement within one month. Nevertheless, patients do seek professional help in large numbers. Back pain forms a considerable part of a general practitioner's workload and that of orthopaedic surgeons, rheumatologists and physiotherapists. Many patients also consult chiropractors and osteopaths for this condition.

Some of the decrease in general practice consultation rates observed in this study could have been due to patients turning to alternative practitioners or simply adapting to their continuing problem.

The causes of back pain remain undiagnosed in the majority of cases and it is notoriously difficult to treat. The Department of Health and Social Security working group on back pain reported that "there is disturbingly little evidence that whatever is done is effective in exerting any influence on the natural history of the underlying condition, apart from at times affording temporary relief of the pain." The views of this group of experts about the lack of benefit of medical intervention for back pain should be borne in mind when evaluating the referral patterns observed in this study. However, if specialists have so little to offer in the way of effective therapies, why do general practitioners continue to refer their patients in such large numbers and why do so many patients undergo re-referrals for this problem?

One problem is that it is actually very difficult to predict which patients will be most severely affected by their symptoms and which might benefit from specialist help. This study suggests that the prognosis was worst for those who had an episode of back pain more than a year prior to referral, but around 60% of these patients were not consulting for back pain at the five-year follow up. The proportion of patients apparently free of

<table>
<thead>
<tr>
<th>Table 4. Outcome five years after index referral for back pain by time between first record of symptoms in general practice notes and date of referral letter for index referral.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time delay</td>
</tr>
<tr>
<td>------------</td>
</tr>
<tr>
<td>6 months or less</td>
</tr>
<tr>
<td>7–12 months</td>
</tr>
<tr>
<td>13–24 months</td>
</tr>
<tr>
<td>25–60 months</td>
</tr>
<tr>
<td>Over 60 months</td>
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<tr>
<td>All patients</td>
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</tbody>
</table>

Records were incomplete for three patients.
symptoms five years after the index referral (66%) was strikingly similar to that found in other studies and it has been suggested that this may be due entirely to the spontaneous recovery rate.9

It has been suggested that general practitioners are abdicating responsibility for patients with back pain by referring them too readily. However, the long interval between first consultation and referral for the majority of the patients in this study, despite their high mean consultation rate, suggests that these general practitioners were using referral as a last, rather than first, resort. General practitioners may feel a need for consultants to share the burden of this difficult and frustrating condition.

On the other hand, the fact that many patients received re-referrals and multiple follow-up outpatient consultations suggests that there may be scope for rationalizing the system to make it more convenient for patients and more efficient in terms of resource use. Some have argued that patients with chronic lower back problems could be more thoroughly assessed in specialist back pain clinics where they could see a range of specialist and paramedical staff at the initial assessment and where they could be given advice on how to manage their condition and prevent recurrence.14 The effect of a more coordinated team management approach could be assessed by randomizing referred patients to a special back pain clinic or to normal specialist care.

As the results presented here show, in many cases the main reason for referral is that the general practitioner feels that the patient needs specialist advice or reassurance. Despite this specialists initiated treatment in the majority of cases. This mismatch in the assumptions of general practitioners and specialists about the purpose of referral has been highlighted before.15 There is some evidence from a study of patients attending a rheumatological back pain clinic that many patients have a realistic view of the likely outcome, being more likely to expect advice on how to cope with their problem, than a cure induced by surgery or medication or any other means.16 However, the extent to which it is appropriate to use expensive hospital resources for the purpose of reassuring anxious patients is the subject of some debate.17 The use of lumbar spine radiography for this purpose has been questioned on grounds of safety.18

The need for referral might be obviated if patients were given more information by their general practitioners both about the likely effect of treatment and about ways of coping with and preventing episodes of back pain.19 Better communication between general practitioners and specialists might reduce the duplication of tests and physiotherapy referrals observed in this study, and might reduce the need for re-referrals, cross-referrals and repeated outpatient appointments.

Above all there is a pressing need for general practitioners and specialists to agree protocols for appropriate referral. Referral guidelines should aim to reach consensus on: the relevance and timing of diagnostic investigations; the use of referral to reassure patients; the content of referral and discharge letters; arrangements for follow-up appointments; and the provision of information to patients about the effectiveness of the various treatment options and prevention strategies.

The development of locally agreed guidelines could start from a detailed examination of the referral process in relation to particular topics, together with controlled outcome studies designed to look at the costs, risks and benefits of referral. This strategy could highlight those aspects of the referral process which could be made to operate more efficiently and effectively. The alternative strategy of invoking sanctions against the outliers may succeed in reducing variation in referral rates, but is unlikely to contribute to an improvement in the overall quality of patient care.

References

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