

# Quality of general practitioner referrals to outpatient departments: assessment by specialists and a general practitioner

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**SUMMARY.** *Thirty eight specialists in one district health authority were asked to take part in a questionnaire survey to assess the appropriateness of referral and the quality of the referral letter for 20 consecutive new patients each. A total of 705 new patient referrals to 13 specialties were included in the study. Twelve of the 38 specialists were randomly selected and their 234 new patient referral letters were independently assessed by a general practitioner for the appropriateness of the referral decision. The study revealed errors and omissions in between 5% and 28% of referral letters according to the category of information. Thirteen per cent of the new patient referrals were assessed by specialists to be inappropriate and 4% of patients had been referred to an inappropriate specialty. Significantly more of the referrals to medical specialties were inappropriate (20%) than to surgical specialties (9%) ( $P < 0.01$ ). There were more than three times the number of errors and omissions in the referral letters of referrals assessed as inappropriate than in the referral letters of referrals assessed as appropriate ( $P < 0.01$ ). The referral letters of referrals assessed as inappropriate were more than nine times as likely to omit the reasons for or objectives of the referral compared with letters for those referrals assessed as appropriate ( $P < 0.01$ ). There was a good overall agreement between the specialists and general practitioner in their assessment of the appropriateness of the clinical referrals ( $\kappa = 0.614$ ,  $P < 0.001$ ).*

*The quality of information in general practitioners' referral letters needs improvement and a standardized referral pro forma, which includes the reasons for and objectives of the referral, may help.*

**Keywords:** *referral of patients; referral letters; inappropriate referral.*

## Introduction

ALTHOUGH information on general practitioner referral rates is becoming widely available the interpretation of this information is difficult and may be of limited value.<sup>1</sup> The ideal referral rate for optimal health care remains unknown, indeed clinicians with similar referral rates may vary in their referral decisions in different situations.<sup>1-4</sup>

Referral rates are known to vary widely but no study has demonstrated any relationship between referral rates and measures of the quality of the clinical referral. Thus, referral rate information alone is a poor guide to the quality of referrals.<sup>2,5</sup> Meaningful assessment of referral performance requires a measure of the quality of the clinical referral, including the appropriateness of the referral decision and an assessment of

the information contained in the referral letter. Few studies have explored the possible markers and characteristics related to the quality of the clinical referral.<sup>5-7</sup> The aim of the study was to explore any relationship between the quality of information contained in referral letters and an assessment of the appropriateness of the decision to refer to different specialties. The level of agreement between individual specialist assessors and a general practitioner assessor in respect of the appropriateness of the referral decision was also measured.

## Method

A questionnaire was developed in late 1990 to explore the quality of information contained in referral letters and the appropriateness of general practitioners' decisions to refer patients to local district general hospital outpatient services. After consultation with both general practitioners and specialists, 13 questions were devised. Eleven questions were intended to measure the quality of the information in the referral letter — nine concerned important categories of clinical information, one poor grammar and one absence of appropriate investigations. These 11 questions required one of three responses. (1) A cross code for any category where information had been omitted or where an error had been made which were clinically relevant to the particular case. (2) A tick code for any category where the information was both accurate and complete. (3) Either not applicable or a blank for any category in which no information appeared in the referral letter but where such information was not clinically relevant.

The remaining two questions concerned the appropriateness of the referral decision. Respondents were asked to categorize the referral into clearly appropriate, possibly inappropriate or clearly inappropriate on the grounds of whether or not the patient could have been managed within primary care assuming the referrer had the clinical skills and competence expected of the average general practitioner. The respondents were also asked if the referral was directed to an appropriate specialist irrespective of whether or not the patient would have been more appropriately dealt with in primary care. There was space on the questionnaire for respondents' comments.

Thirty eight specialists in the Bromsgrove and Redditch District Health Authority (13 medical specialists, 17 surgical, eight others) were asked to complete a questionnaire for each of 20 consecutive new patient referrals over the three months of the study period (January to March 1991). All 38 specialists agreed to participate. The specialists were asked to compare the information contained in the referral letter with the information obtained from the patient by taking a clinical history and carrying out an examination. They were asked to complete the questionnaires immediately after each consultation.

Twelve of the 38 specialists (five medical specialists and seven surgical) were randomly selected and asked to provide anonymous copies of their 20 referral letters, that is to remove the name of the patient and of the referring general practitioner. These anonymous copies were separately assessed by one general practitioner for the appropriateness of the referral decision. The assessments of the general practitioner were compared with those of the specialists. Those referrals dually assessed which were felt

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to be inappropriate by specialists were further analysed by the specialist responsible for the initial assessment and the general practitioner assessor, for the reasons for the inappropriateness of the referral decision.

The information collected was transferred to a computer database and analysed. The chi square test and kappa statistic were used to test levels of significance.<sup>8-11</sup> The kappa statistic is zero when agreement is no different to that expected by chance alone, one when there is perfect agreement and minus one when there is perfect disagreement.

## Results

The 38 specialists completed questionnaires for 705 of the possible 760 referral letters (92.8%). Of the 705 new referrals, 92 (13.0%) were assessed by specialists to be possibly or clearly inappropriate (Table 1). There was a significantly higher proportion of inappropriate referrals to medical specialties (19.6%) than to surgical specialties (8.6%) (chi square = 7.5,  $P < 0.01$ ). A total of 3.8% of patients were thought to have been referred to inappropriate specialties.

The percentage of all referral letters containing errors or omissions in the nine information categories ranged from 5.4% to 28.2% (Table 1). The highest levels of errors or omissions were in the categories past medical history, drug history and social history. For 22.8% of new referrals appropriate primary care based investigations were not thought to have been carried out. In 5.0% of cases letters were difficult to read or assimilate or were grammatically poorly composed.

For referrals assessed as inappropriate the referral letters were significantly more likely to contain incorrect information than for referrals assessed as appropriate (Table 2). Referral letters for referrals assessed as inappropriate were also significantly more likely to omit the reasons for and/or the objectives of the referral compared with referrals assessed as appropriate (Table 3).

**Table 1.** Appropriateness of the clinical referral decision for new referrals to medical, surgical and all specialties, and errors and omissions in the referral letters.

	% of new referrals		
	Medical specialties (n = 224)	Surgical specialties (n = 360)	All specialties (n = 705)
<b>Appropriateness of referral</b>			
Possibly inappropriate	15.2	6.7	10.5
Clearly inappropriate	4.5	1.9	2.6
<b>Inappropriate specialty</b>	7.1	1.9	3.8
<b>Errors or omissions in referral letters</b>			
Patient registration details <sup>a</sup>	5.4	3.9	5.4
Presenting complaint(s)	14.3	9.4	11.1
Past medical history	25.9	25.6	28.2
Drug history	29.9	21.1	26.2
History of allergy	13.4	9.2	12.3
Family history	25.0	10.0	16.9
Social history	32.1	13.6	20.7
Reason(s) for referral	8.5	6.4	7.9
Objective(s) of referral	13.8	8.6	11.8
<b>Absence of appropriate investigation(s)</b>	27.2	17.8	22.8
<b>Letter has poor grammar<sup>b</sup></b>	4.9	4.7	5.0

n = total number of new referrals. <sup>a</sup>Name, age and so on. <sup>b</sup>Difficult to read or assimilate or grammatically poorly composed.

There was no evidence of a difference between the specialists and the general practitioner assessor in the assessment of the appropriateness of the referral decision for the 234 referral letters that were assessed by both, nor when the two groups of specialists were compared separately with the general practitioner. The specialists rated 217 referrals as appropriate (92.7%) and the remainder as possibly inappropriate while the general practitioner rated 204 as appropriate (87.2%) and the remainder as possibly inappropriate. The specialists and general practitioner agreed that 200 referrals were appropriate (85.5%) and that 17 were possibly inappropriate (7.3%). This close overall agreement between the assessors were reflected in a kappa value of 0.614 ( $P < 0.001$ ). The referral letters for the 17 referrals rated by the specialists as possibly inappropriate were anonymously reviewed by the specialist responsible for the initial assessment and the general practitioner assessor. All 17 referrals were found to be inappropriate on the grounds of misinterpretation of clinical symptoms or signs, or misinterpretation of the results of investigations carried out by the general practitioner.

Twenty one of the 38 specialists recorded comments. These reflected the patterns of errors and omissions found in the referral letters. Most assessors asked for more detailed past medical histories (19), more detailed drug histories including accurate dosage details (11) and more complete results of investigations with requests for copies of reports to be included (six). Four

**Table 2.** Information contained in referral letters for referrals that were assessed as appropriate, possibly inappropriate and clearly inappropriate.

	% of information items		
	Appropriate referrals (n = 7356)	Possibly inappropriate referrals (n = 888)	Clearly inappropriate referrals (n = 216)
Correct information	69.5	50.5	28.7
Incorrect information <sup>a,b</sup>	14.1	35.6	53.2
Information not applicable	16.4	14.0	18.1

n = total number of information items on the questionnaires, that is the number of referrals x 12 questions. <sup>a</sup>Errors or omissions. <sup>b</sup>Appropriate versus possibly inappropriate:  $\chi^2 = 162.4$ ,  $P < 0.01$ ; versus clearly inappropriate:  $\chi^2 = 188.7$ ,  $P < 0.01$ ; versus possibly and clearly inappropriate:  $\chi^2 = 40.1$ ,  $P < 0.01$ .

**Table 3.** Percentage of referral letters without reason(s) for referral or objective(s) of referrals for the referrals that were assessed as appropriate, possibly inappropriate and clearly inappropriate.

	% of referral letters		
	Appropriate referrals (n = 613)	Possibly inappropriate referrals (n = 74)	Clearly inappropriate referrals (n = 18)
<b>Referral letters without</b>			
Reason(s) for referral <sup>a</sup>	4.1	31.1	44.4
Objective(s) of referral <sup>b</sup>	6.2	43.2	72.2

n = number of referral letters. <sup>a</sup>Appropriate versus possibly inappropriate:  $\chi^2 = 11.7$ ,  $P < 0.01$ ; versus clearly inappropriate:  $\chi^2 = 5.1$ ,  $P < 0.05$ ; versus possibly and clearly inappropriate:  $\chi^2 = 9.4$ ,  $P < 0.01$ . <sup>b</sup>Appropriate versus possibly inappropriate:  $\chi^2 = 61.8$ ,  $P < 0.01$ ; versus clearly inappropriate:  $\chi^2 = 50.9$ ,  $P < 0.01$ ; versus possibly and clearly inappropriate:  $\chi^2 = 14.1$ ,  $P < 0.01$ .

specialists asked for enough information to be included so as to be able to assess the urgency of the referral. Twenty specialists registered their overall satisfaction with clinical referrals with respect to the appropriateness of the referral decision.

### Discussion

This study highlights a number of problems with the referral process, several of which have been found in other studies.<sup>12-17</sup>

In this study specialists judged that the percentage of referral letters containing errors or omissions ranged from 5.4% to 28.2%, according to the information category. This missing or inaccurate information which particularly concerns past medical history and drug history is often difficult to obtain directly from patients in hospital outpatient departments and makes accurate assessment and management more difficult. In 22.8% of referrals preliminary investigations that specialists would have expected to have been carried out before referral were not mentioned in the referral letter and this points to either a general under use of the investigations available to general practitioners before referral, or an under-reporting of potentially useful information in the referral letter.

The significantly higher proportion of inappropriate referrals to medical specialties than to surgical specialties found here was not unexpected. This finding may reflect differences in the complexity of the referral decision between the two specialties. Referral to a surgical specialty is often for a definite procedure. In contrast, medical referrals are often for help in diagnosis and for advice on management and are thus associated with more uncertainties.<sup>18</sup> It is unlikely that medical specialists had a higher expectation of the quality of general practitioner referral decisions than their surgical colleagues as both groups of specialist assessors agreed well with an independent assessment by a general practitioner.

The percentage of information items that were incorrect on letters for referrals that were assessed as possibly or clearly inappropriate was almost three and four times higher, respectively, than on letters for referrals assessed as appropriate. Owing to the structure of the questionnaire, it is unlikely that this reflects assessor bias, but may reflect the information gathering skills of general practitioners who refer inappropriately. The significant relationship between inappropriate referrals and referral letters without reasons for referral and objectives of referral is of interest but is not necessarily a causal relationship. It may, however, reflect the fact that the general practitioner is not considering all the management alternatives in an individual case before making the decision to refer. This relationship does raise the question of whether a standard referral letter which includes the reasons for and objectives of the referral could improve the appropriateness of the referral decision, by training general practitioners to think through the exact reasons for referral, the questions they want answered and what they want the patient to gain from the referral.

There was a good overall agreement between the specialist and general practitioner assessors for the appropriateness of the referral decision. There is controversy over the 'best' assessors of the quality of clinical referrals and some studies infer that specialists alone may be poor assessors.<sup>19</sup> This study suggests that there can be good agreement between specialist and general practitioner assessors and that this combination may be a good starting point for any study of referral performance.

The referral letters for the referrals that were assessed to be possibly inappropriate by the specialists all showed evidence of misinterpretation of clinical symptoms or signs, or misinterpretation of the results of investigations. It is thus unlikely that improvements in the quality of referral decisions would result from disease related referral guidelines alone, but would be more

likely to result from an improvement in the knowledge and skills of general practitioners.

Feedback, evident on presentation of initial data to the specialist and general practitioner participants, indicated that there was general satisfaction with the relatively low proportion of inappropriate referrals in this study. However, participants were surprised by the high proportion of errors and omissions found in referral letters. This has led to the suggestion by specialists of a standardized referral letter format which is more detailed than the format currently in use. The study has also stimulated interest from local general practitioners in a further examination of the referral process, this time looking at the quality of the specialist's letter, and this study is now in progress.

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