

# Referral letters to colorectal surgeons: the impact of peer-mediated feedback

Moyez Jiwa, Stephen Walters and Nigel Mathers

## SUMMARY

**Background:** General practitioners (GPs) select few patients for specialist investigation. Having selected a patient, the GP writes a referral letter which serves primarily to convey concerns about the patient and offer background information. Referral letters to specialists sometimes provide an inadequate amount of information. The content of referral letters to colorectal surgeons can now be scored based on the views of GPs about the ideal content of referral letters.

**Aim:** To determine if written feedback about the contents of GP referral letters mediated by local peers was acceptable to GPs and how this feedback influenced the content and variety of their referrals.

**Design:** A non-randomised control trial.

**Setting:** GPs in North Nottinghamshire.

**Method:** In a controlled trial, 26 GPs were offered written feedback about the documented contents of their colorectal referral letters over 1 year. The feedback was designed and mediated by two nominated local GPs. The contents of referral letters were measured in the year before and 6 months after feedback. GPs were asked about the style of the feedback. The contents of referral letters and the proportion of patients with organic pathology were compared for the feedback GPs and other local GPs who could be identified as having used the same hospital for their referrals in the period before and after feedback.

**Results:** All GPs declared the method of feedback to be acceptable but raised concerns about their own performance, and some were upset by the experience. None withdrew from the project. There was a difference of 7.1 points (95% confidence interval = 1.9 to 12.2) in the content scores between the feedback group and the controls after adjusting for baseline differences between the groups. Of the GPs who referred to the same hospital before and after feedback, the feedback GPs referred more patients with organic pathology than other local colleagues.

**Conclusions:** GPs welcome feedback about the details appearing on their referral letters, although peer comparisons may not always lead to changes in practice. However, in some cases feedback improves the content of GP referral letters and may also impact on the type of patients referred for investigation by specialists.

**Keywords:** colorectal; referral letter; general practitioners; quality of health care.

## Introduction

LOWER bowel symptoms are very common among patients presenting to general practitioners (GPs) in the United Kingdom.<sup>1</sup> The symptoms and signs of organic conditions mimic those of relatively benign conditions and, in some patients, referral to a specialist is required to establish a diagnosis. Writing the referral letter is often postponed until after the patient has left the GP's office. Some GPs do not believe the consultant actually reads this letter and have differing ideas about what constitutes an adequate referral letter.<sup>2</sup> Previous reports suggest that a significant percentage of GP referral letters are considered to contain inadequate information.<sup>3,4</sup> Omissions noted in the letter of referral may indicate poor selection of patients resulting from incomplete history taking and/or examination prior to referral. This may have unfortunate consequences for the patient and can be improved.<sup>5,6</sup>

Learning theory predicts that the target of an intervention is more likely to respond if the desired behaviour is reinforced.<sup>7</sup> The key is the provision of motivation to change and this may be enhanced when the target of change is seen as relevant to effective practice.<sup>8</sup> In this study we seek to determine if detailed feedback, mediated by peers and focused on the content of GP referral letters, is acceptable, and examine its impact on referral letters.

## Method

### 'Quality' of referral letters

A validated instrument was used to measure the 'quality' of colorectal referral letters.<sup>9</sup> Scores on the instrument were derived by consensus among significant numbers of GPs and surgeons. Each clinical feature documented in the letter scores marks depending on the level of agreement between clinicians about the value of that feature as documented in a referral letter. The instrument scores GP referral letters on a 0–100 scale. The benchmark for a 'good' referral letter has been set at 35/100 marks.<sup>9</sup> Letters that are comprehensive and focus in particular on features of colorectal cancer score the highest marks. The instrument scores even 'very good' letters a modest mark. This is because scores relate to individual elements of history and examination. In practice few, if any, patients would have all the possible signs, symptoms, and risk factors for colorectal cancer and therefore a score approaching 100% is very improbable. The instrument was noted to have predictive validity with the odds of diagnosing organic pathology increasing with the score.

### Sample size

Using previously published data we required 18 GPs per group at 80% power, 5% significance to detect a difference

M Jiwa, MD, MRCP, lead research fellow, Institute of General Practice and Primary Care; S Walters, MSc, statistician, SchARR; N Mathers, BSc, MD, PhD, MRCP, director, Institute of General Practice and Primary Care, University of Sheffield, Sheffield.

#### Address for correspondence

Dr Moyez Jiwa, University of Sheffield, Institute of General Practice and Primary Care, Community Sciences Centre, Northern General Hospital, Herries Road, Sheffield S5 7AU.  
E-mail: moyez@onetel.net.uk

Submitted: 23 April 2003; Editor's response: 9 July 2003; final acceptance: 20 October 2003.

©British Journal of General Practice, 2004, 54, 123–126.

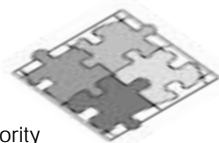
**HOW THIS FITS IN**

*What do we know?*

Large bowel symptoms are common among general practice patients. A minority of patients are referred for investigation by surgeons. Referral letters often do not fully document the presenting features.

*What does this paper add?*

Detailed written feedback about the content of an individual GP's referral letters mediated by other GPs improves the volume of communication at the interface and may also alter the selection of cases for referral to specialists.



of 10 points on total scores for referral letters.<sup>9</sup> On the basis of 25% attrition, we aimed at recruiting 24 GPs per group. The project was approved by the Bassetlaw and Rotherham Local Research Ethics Committee.

**Recruitment**

All 32 GPs from a local research network were invited to participate. No GPs had a stated specialist interest in colorectal surgery and none were otherwise research active. Twenty-six GPs were recruited to the feedback group; the others gave no specific reason for declining involvement in the study. All approved the choice of peer reviewers. Control subjects were up to 50 practitioners who referred to the same local district general hospital.

**Stage 1**

Written feedback to practitioners was designed and mediated by the peer reviewers. Referral letters from all GPs were scored on behalf of the peer reviewers by a researcher. In every case the feedback form was signed by the peers as having viewed and approved the output. The final version of feedback is included in Supplementary appendix 1. Feedback about letters for the period October 1999–March 2000 was posted to participating GPs in September 2000. Referral letters from all GPs referring to the hospital were scored for the 6-month period of April–September 2000. The feedback group was then invited to receive written feedback about the content of their referral letters in January 2001. They were also asked their views about the style of the feedback using a questionnaire. Patients with 'significant pathology' were defined as those discharged with a diagnosis based on the results of investigation including: colorectal carcinoma, colorectal polyps, moderate or severe diverticular disease, and inflammatory bowel disease.

**Stage 2**

Referral letters from both groups were scored for the 6-month period from October 2000 to March 2001 for the final analysis. Twenty-one GPs receiving feedback had made referrals in all three periods. Similarly, 37 others had referred colorectal patients to the same local hospital during this 18-month period. The demographic details of all GPs in the locality were collated from data held in health authority records. Finally, the quality of referral letters and

Table 1. Responses to questions about feedback.

Question	Yes (n [%])
1. Would you like to receive similar feedback as planned after the next 3 months?	16 (94)
2. Would you like your marks identified to others participating in the project in the next round?	6 (35)
3. Will you change the content of your referral letters in colorectal cases after receiving this feedback?	11 (65)
4. Would you like to receive similar feedback in other areas of your performance?	10 (59)
5. Would you like to make this audit part of your personal professional development plan?	14 (82)
6. Would you like to attend a seminar on colorectal cancer?	6 (35)

Table 2. Referral letter content scores for GPs who referred patients in the period before and after the delivery of feedback.<sup>a</sup>

	Feedback group	Control group
Mean scores before feedback	34.1	28.2
Mean scores after feedback	39.5	28.7
Mean difference and confidence intervals	5.3 (1.5 to 9.2)	0.55 (-1.4 to 2.5)
t-test degrees of freedom	20	36
P-value	0.008	0.6

<sup>a</sup>Thirty-five marks were previously set as the benchmark for a 'good' referral.

the number of patients with significant pathology referred by all GPs who referred at least the average number of patients (that is, three in the 6 months from October 2000 to March 2001) were analysed using the appropriate test.

**Results**

GPs were asked to complete a questionnaire after receiving the first round of feedback. There was a 71% response rate (n = 17/24; two GPs did not make referrals in the relevant period and therefore did not receive feedback or the questionnaire). Responses to individual questions are shown in Table 1.

All GPs agreed to receive feedback about the content of their referral letters on both occasions. Where there had been no response to the questionnaire, this matter was ascertained via the practice managers in each case. Two GPs were particularly upset and had considered withdrawing from the project. No GP refused further feedback.

*Did feedback improve the content of the letters from the feedback group?*

The 'quality' scores were normally distributed. There was a considerable improvement in the content of the referral letters from the feedback group from before to after feedback as illustrated in Table 2. There was no improvement in the scores for the control group in the same period.

*Were the observed differences in content scores after feedback owing to identified differences between the groups?*

There is some evidence that feedback GPs were younger, more likely to be male, and slightly more likely to be non-

Table 3. Characteristics of feedback and control groups in the study.

	Feedback group mean (SD)	Controls mean (SD)	P-value
Age in years	41 (10.7)	46 (8.9)	0.02 <sup>a</sup>
List size	1749 (993)	2060 (781)	0.17 <sup>a</sup>
Number of referrals at <i>t</i> = 0	3.5 (1.8)	2.6 (2.6)	0.16 <sup>a</sup>
Ethnicity (% non- European)	8	6	0.07 <sup>c</sup>
Single-handed (%)	8	5	0.51 <sup>c</sup>
GPs in training practice (%)	31	24	0.31 <sup>b</sup>
Sex (% female)	23	25	0.049 <sup>b</sup>

<sup>a</sup>t-test. <sup>b</sup>χ<sup>2</sup>. <sup>c</sup>Fisher's exact test. SD = standard deviation.

Table 4. Impact of differences between groups on final scores: linear regression analysis adjusted for differences between the feedback group and the control group.

	Unstandardised coefficients (95% CI)	Standard error	t-value	P-value
(Constant)	27.88 (9.38 to 46.38)	9.19	3.03	0.00
Age	-0.20 (-0.48 to 0.08)	0.14	-1.46	0.15
Sex	-1.47 (-8.74 to 5.79)	3.61	-0.41	0.68
Feedback group <sup>a</sup>	7.06 (1.91 to 12.21)	2.56	2.76	0.01
Mean score before recruitment	0.37 (-9.38 to 0.78)	0.20	1.87	0.07
Ethnicity	3.81 (-0.48 to 11.63)	3.89	0.98	0.33

Dependent variable: mean score (after feedback). <sup>a</sup>Feedback group = 1, control = 0. CI = confidence interval.

white compared with the control GPs as shown in Table 3. To determine the impact of these baseline differences, linear regression analysis was performed with the mean of the scores following feedback as the dependent variable and the independent variables including the study group, age, sex, ethnic background, and mean scores before recruitment to the project as the independent variables: the regression coefficient (R<sup>2</sup> = 0.42, adjusted R<sup>2</sup> = 0.36) suggested that the variables were reasonably predictive of the final scores.

This analysis has the effect of adjusting the outcome variable (referral score after feedback) for the baseline score and other covariates (age, sex, and ethnicity). After allowing for these, the feedback group had a significantly higher referral score after feedback (*P* = 0.01) with a mean difference of 7.1 points (95% confidence interval = 1.9 to 12.2). This implies that the results are reasonably robust to any baseline imbalances between the groups. These data are shown in Table 4.

#### *Impact on referral behaviour: was there a difference between clinical outcomes?*

GPs in this study referred seven patients a year on average. There were 14 GPs in the feedback group who referred at least three patients in the 6 months after feedback and therefore were likely to be using the same hospital for their referrals

after feedback. Twenty-four GPs in the control group made a similar number of referrals to the hospital (median 4.5 versus 3.5 patients over 6 months, Mann-Whitney U-test, *P* = 0.16). After feedback these 14 feedback GPs referred more patients with pathology than the control group (median 17.4 versus 0%, Mann-Whitney U-test, *P* = 0.04). It is not clear whether or not this difference is significant and it must be interpreted with caution because of 'underpowering' of this aspect of the study.

## Discussion

Feedback about the content of referral letters encouraged documentation of salient clinical findings and by corollary may have motivated, or at least prompted, practitioners to ask pertinent questions and conduct the relevant examinations. Unfortunately, the results were not validated by direct observation of any change in clinical behaviour since this was deemed impractical.

With respect to the main aim of this study, GPs generally welcomed detailed feedback about the content of their referral letters. We acknowledge that this study was conducted on 'research receptive volunteers'. However, by their geographical proximity and association, they might also be described as a 'community of practice',<sup>8</sup> and the implied relationships may have had a bearing on their continued goodwill towards the project despite the discomfort occasioned to some of the participants. Some of the practitioners worked in the same small market town and all worked in the same locality. It is this association that appears to have been critical to the success of the project. Most of the GPs met weekly as part of a 'total purchasing pilot' group to discuss clinical and commissioning issues. There was an established culture to share data and to work towards local standards. In addition, this was the first time that detailed data about the 'content' of referral letters, rather than their number, was targeted for change and the novelty may have had a bearing on the successes recorded here.

The relatively small number of referral letters available for review reflects the reality that very few patients with lower bowel symptoms are referred to specialists.<sup>10</sup> Some GPs declared a reticence to change their letter writing practices regardless of the content of the feedback. This study was not designed to explore the reasons for this. However, it may reflect previous work in which some GPs were not motivated by exhortations from so-called 'experts' even when relative underperformance was highlighted in peer comparisons.<sup>11</sup> As independent practitioners, GPs may occasionally exercise the right to disregard peer comparisons. In this study such views were respected and anonymity was retained, allowing a minority of practitioners the privacy to declare a refusal or ambivalence to change practice in response to feedback.

Peer comparison and feedback has been shown to influence medical practice, as has the use of local opinion leaders.<sup>12</sup> This study focused on the detailed content of documents rather than on clinical practice. It was not possible to elaborate the precise clinical significance of an improvement in the score on the referral letter. However, by the end of the study practitioners were documenting more clinical details that colleagues had previously considered important in relation to colorectal referrals. The outcomes of this study

suggest that inviting local GPs to review the performance of their peers may motivate the latter without intruding directly on the doctor-patient interaction. Improvements in the volume of documentary communication across the interface may influence care in the UK National Health Service. It may even impact on the type of patients referred, although we accept the possibility of an  $\alpha$  error, given the small sample size, and can only safely conclude that further research is warranted.

## References

1. Jones R, Lydeard S. Irritable bowel syndrome in the general population. *BMJ* 1992; **304**: 87-90.
2. Jiwa M, Burr J. GP letter writing in colorectal cancer: a qualitative study. *Curr Med Res Opin* 2002; **18(6)**: 342-346.
3. Elwyn GJ, Rix A, Matthews P, Stott N. Referral for prostatism: a 'performance indicator' for the gate between primary and secondary care? *Br J Gen Pract* 1998; **48(433)**: 1528.
4. Steine S, Laerum E. Referrals for radiological examination of the large bowel. Pre-radiological examinations, tests and referral letters. *Fam Pract* 1994; **11(1)**: 21-25.
5. Jiwa M, Newton P, Mitchell C, *et al*. The quality of discharge summaries for new nursing home patients. *J Clin Gov* 2001; **9**: 55-58.
6. Grol R, Rooijackers-Lemmers N, van Kaathoven L, *et al*. Communication at the interface: do better referral letters produce better consultant replies? *Br J Gen Pract* 2003; **53**: 217-219.
7. Skinner BF. *Science and human behaviour*. New York: Macmillan, 1953.
8. Wenger, E. *Communities of practice. Learning, meaning and identity*. Cambridge: Cambridge University Press, 1998.
9. Jiwa M, Mathers N, Walters S. Quality of information on referrals to colorectal surgeons: towards consensus. *Curr Med Res Opin* 2002; **18(2)**: 72-77.
10. Royal College of General Practitioners, Office of Population Censuses and Surveys, and Department of Health and Social Security. *Morbidity statistics from general practice 1981-1982*. (Series MB5 no. 2.) London: HMSO, 1990.
11. Jiwa M, Mathers N. Auditing the use of ACE inhibitors in hypertension. Reflecting the cost of clinical governance. *J Clin Gov* 2000; **8**: 27-30.
12. NHS Centre for Reviews and Dissemination. Getting evidence into practice. *Eff Health Care* 1999; **5**: 1.

## Supplementary information

Additional information accompanies this paper at:  
<http://www.rcgp.org.uk/journal/index.asp>

## Acknowledgements

Our thanks to those who participated in the study, to Trent Regional Health Authority for funding, to Lindsey Shaw and Jenny Freeman for preparing and reviewing the manuscript, and to colleagues attending the Trent Regional SAPC for cogent and constructive criticism.