

Assessment of content quality of referral letters written by Family Physicians in training: a Nigerian tertiary hospital's perspective

*Onaopemipo Omoniyi Kolade^{1,2}, Abimbola Margaret Obimakinde^{1,2}, Achiaka Emmanuelle Irabor¹

1.Department of Family Medicine, University College Hospital, Ibadan.

2.Family Medicine Unit, Department of Community Medicine, College of Medicine, University of Ibadan.

Corresponding Author

Name: Onaopemipo Omoniyi Kolade

Department of Family Medicine, University College Hospital, Ibadan

e-mail: onaopemipooluwatayo@gmail.com

Abstract

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Background: Referral letters are the major means of communication between primary care physicians and specialists. The information they contain guides specialists in clinical decision making both before and during consultation. The quality of a referral letter reflects its completeness, accuracy, and relevance, and is therefore crucial for appropriate patient prioritisation and the development of effective management plans. In addition, the severity or complexity of a patient's illness may influence the level of detail and thoroughness reflected in the referral letter.

Methods: This study reports the results of a cross-sectional audit that assessed the content quality of 310 referral letters written by family physicians in training. The Consultation and Referral Request Letter Assessment Tool was used to assess the content quality of the referral letters. Patients' illness severity was assessed with the Duke Severity of Illness (DUSOI)/WONCA Checklist.

Results: Nearly a quarter of the referral letters (23.9%) were rated as helpful and informative, while 15.5% were deemed unhelpful; the majority (60.6%) fell into the fairly informative category. Documentation of relevant comorbidities showed a borderline weak positive correlation with illness severity ($rs = 0.111$, 95% CI -0.00 to 0.22 , $p = 0.050$), while results of investigations to date showed a weak positive correlation ($rs = 0.193$, 95% CI 0.08 to 0.30 , $p = 0.001$); the composite content score was not significantly associated with illness severity ($rs = 0.069$, 95% CI -0.04 to 0.18 , $p = 0.228$).

Conclusion: These findings call for strategies to improve the content quality of referral letters and ensure consistent transmission of essential information from primary care to specialists, regardless of illness severity.

Keywords: Referral letter, Quality, Proforma, Illness Severity, Primary Care.

Introduction

The essential content of a high-quality referral letter may vary depending on the referral type or specialty; however, there is a consensus that an ideal referral letter should include adequate and relevant information on the patient's sociodemographic data, salient history of the presenting complaints, examination findings, significant comorbidities, relevant psychosocial history, likely diagnosis, treatment offered so far and reason for the referral.¹ The details included in these fields may vary according to the individual patient. For instance, psychosocial history may be more important in a mental health disorder or for an elderly frail patient than for an adult with a lipoma. Other vital information includes the name of the referring personnel and the clinic from which the referral emanates.² These are crucial because a referral should ideally be two-way, with feedback and, occasionally, back-referral from the receiving doctor after the patient has received appropriate care.³ Deficiencies in referral letters have been reported across different specialties, and referral letters have been found to lack essential information needed for continuity of care.^{4,5} Insufficient referral content can result in errors in patient triage, which may compromise patient outcomes or lead to unnecessary repetition of investigations and even polypharmacy.⁶ Writing a high-quality referral letter is a core clinical competency that family physicians must develop, given their pivotal role at the frontline of healthcare delivery and in the coordination of patient care. Efforts to enhance the quality of referral communication have led to various proposed interventions, underscoring the need for a multifaceted approach to improving referral practices. One such intervention is the adoption of

structured referral proformas or templates, which incorporate prompts to guide the referring physician in providing relevant clinical information, thereby reducing omissions commonly associated with unstructured, free-text letters.^{4,7} Previous studies conducted on the quality of referral letters in this locale have focused on free-text letters.^{4,5} This study aimed to assess the quality of structured referral proforma letters written by family physicians in training.

Furthermore, the clinical context in which a referral is generated, specifically the severity of the patient's condition, may play an unacknowledged role in the quality of communication. Intuitively, one might hypothesize that physicians are more meticulous in documenting complex or life-threatening cases to ensure rapid specialist intervention. There is, however, limited research on how illness severity influences the quality of referral letters written by physicians. Therefore, in addition to assessing general quality, this study evaluates the relationship between illness severity and the quality of referral letters.

Materials and Methods

This was a cross-sectional audit conducted from June to September 2022 at the General Outpatient (GOP) Clinic of the Department of Family Medicine of a tertiary health centre in Southwest Nigeria. This paper presents a secondary analysis of data collected as part of a parent study examining the relationship between referral-letter quality, illness severity, and waiting time to specialist consultation. Findings relating to referral wait time and illness severity have been reported separately.⁸ The GOP Clinic serves as an entry point for most patients with undifferentiated diseases who present to the

hospital, irrespective of their age and gender. Patients who require referrals are handed hard-copy letters written on a referral proforma, which they take to the appropriate specialist clinics.

Three hundred and ten (310) referral letters (sample size determined a priori for the parent study using the Leslie Kish formula) written by family physicians in training were assessed using the Consultation and Referral Request Letter Assessment Tool by two experts (Consultant Family Physicians with over 40 years of clinical experience between them). The two assessors independently scored the letters, and the mean of the two scores was used in analysis. The physicians were unaware that their letters were being assessed. Referral letters were obtained consecutively from all resident doctors rotating through the GOP clinic during the study period; all were senior residents. The tool consists of 15 content items, three style items and a 5-point Likert scale of the overall helpfulness of the letter in the triage process.¹ Only the content items were assessed in this study. Accordingly, findings are reported in terms of referral letter content quality. The content items assessed include the patient demographics (which includes subfields for name, age, sex, occupation, and also captures parity and last menstrual period (LMP) in females), initial statement identifying the reason for the referral, description of chief complaint, description of associated symptoms, past medical history, past surgical history, relevant comorbidities (which was used in place of relevant collateral history as this is currently not on the referral template used in the hospital), relevant psychosocial history, current medication list, allergies, relevant clinical findings, results of investigations to date, outline of management to date, provisional diagnosis or clinical impression, and a statement of what was expected from the referral. To aid objectivity of the assessed referral letters, each of the items was assigned a score of 0 for not done, 0.5 for poorly done and 1 for well done. The difference between poorly and well done was in the level of relevant detail included for each field. A total score less than or equal to 6 was graded as unhelpful (suggesting that the letter lacks key clinical information required for appropriate triage or decision-making). Scores from 7 to 9 were graded as fairly informative (suggesting that the letter contained relevant clinical information but was incomplete or lacked clarity in important areas). Scores between 10 to 15 as helpful and informative letters (letters comprehensive, clear and clinically useful for specialist triage and management planning). Illness severity was assessed independently by one of the authors (a Family Physician) through direct clinical evaluation of the patient, without reference to the content of the corresponding referral letter, to minimise incorporation bias between the exposure (letter content) and outcome (illness severity) measures. Illness severity was assessed with the Duke Severity of Illness (DUSOI)/WONCA Checklist, an instrument for measuring illness severity and comorbidity in ambulatory patients.⁹ It is a generic tool which is based on the implicit clinical judgement of the physician, and it scores illness severity based on the patient's symptoms, treatability, prognosis and complications.

Each patient was evaluated across four clinical parameters, with each parameter scored on a 5-point scale ranging from 0 to 4. Symptom severity over the preceding week was rated as follows: 0 (none), 1 (questionable), 2 (mild), 3 (moderate), or 4 (major). Complications occurring within the same one-week period were scored using an identical scale: 0 (none), 1 (questionable), 2 (mild), 3 (moderate), or 4 (major). Prognosis was assessed by estimating the anticipated clinical course over the subsequent six months in the absence of treatment, scored as 0 (none), 1 (mild), 2 (moderate), 3 (major disability), or 4 (threat to life). Finally, treatability was scored according to the expected response to treatment, as 0 (no need for treatment), 1 (questionable need for treatment), 2 (good expected response), 3 (questionable expected response), or 4 (poor expected response). The scores across these four domains were summed to yield a total raw score ranging from 0 to 16, representing the illness severity score. A score of 1 – 4 was classified as low, 5 – 8 as intermediate, 9 – 12 as high and 13 – 16 as maximum illness severity levels. Statistical analysis was performed using the Statistical Package for Social Sciences (SPSS Version 28 for Windows, IBM SPSS Statistics). Spearman's rank was used to test the correlation between the content of referral letters and illness severity.

Ethical Considerations

Approval of the Ethical Review Committee of the University of Ibadan/University College Hospital Institutional Review Board (UI/UCH IRB) was obtained for the parent study and permission sought from the Head of the Department of Family Medicine before conducting the study. Informed consent was obtained from all the participants and data confidentiality was ensured.

Results

Analysis of the Content of the Referral Letters

The content of the referral letters is reflected in Table 1. The table shows that the part of the referral letters that was mostly well done was the “description of chief complaint” at $n = 297$ (95.8%). This was followed by the “provisional diagnosis or clinical impression” and “past medical history” at $n = 257$ (82.9%) and $n = 246$ (79.4%) respectively. “Patients' demographics” was mostly poorly done at $n = 258$ (83.2%) – that is, two or more of the demography subfields were not filled, and this was followed by “relevant clinical (examination) findings” $n = 108$ (34.8%). Regarding the areas that were not completed, the “statement of what is expected from referral” was not done by most referring clinicians $n = 309$ (99.7%). This was followed by “outline of management to date” at $n = 234$ (75.5%) and the “relevant comorbidities” at $n = 218$ (70.3%).

Table 1: Completeness of the content of referral letters ($n = 310$).

Content Item	Not Done n (%)	Poorly Done n (%)	Well Done n (%)
1. Patient demographics	0 (0.0)	258 (83.2)	52 (16.8)
2. Initial statement identifying reason for referral	130 (41.9)	1 (0.3)	179 (57.7)
3. Description of chief complaint	1 (0.3)	12 (3.9)	297 (95.8)
4. Description of associated symptoms	169 (54.5)	21 (6.8)	120 (38.7)
5. Relevant comorbidities	218 (70.3)	14 (4.5)	78 (25.2)
6. Past medical history	51 (16.5)	13 (4.2)	246 (79.4)
7. Past surgical history	60 (19.4)	12 (3.9)	238 (76.8)
8. Relevant psychosocial history	138 (44.5)	36 (11.6)	136 (43.9)
9. Current medication list	38 (12.3)	86 (27.7)	186 (60.0)
10. Allergies	136 (43.9)	29 (9.4)	145 (46.8)
11. Relevant clinical findings	140 (45.2)	108 (34.8)	62 (20.0)
12. Results of investigations to date	131 (42.3)	58 (18.7)	121 (39.0)
13. Outline of management to date	234 (75.5)	45 (14.5)	31 (10.0)
14. Provisional diagnosis or clinical impression	4 (1.3)	49 (15.8)	257 (82.9)
15. Statement of what is expected from the referral	309 (99.7)	0 (0.0)	1 (0.3)

n — number of letters; % — percentage of the 310 letters assessed.

Content Quality of Referral Letters

Figure 1 presents the content quality of the patients' referral letters using the summation of the scores for all the content items. More than half $n =$

188 (60.6%) of the referral letters were fairly informative, while $n = 74$ (23.9%) were assessed to be helpful and informative, and $n = 48$ (15.5%) were deemed unhelpful.

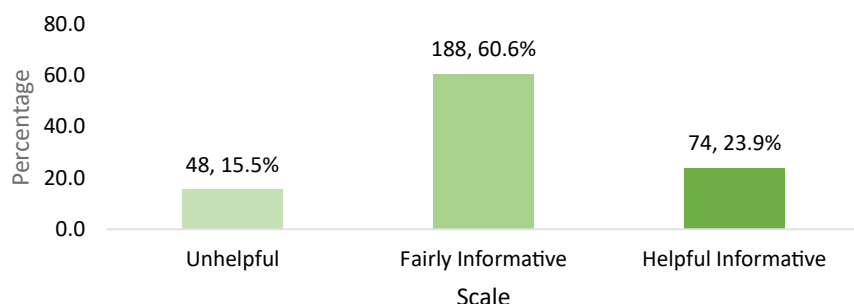


Figure 1: Content Quality of Referral Letters based on Total Content Scores of the Consultation and Referral Request Letter Assessment Tool.

Illness Severity

Regarding illness severity, the majority of patients were classified as having intermediate ($n = 149$, 48.0%) or high ($n = 124$, 40.0%) severity, with only a minority falling into the low (9.7%) or maximum (2.3%) severity categories respectively.

Table 2 shows the association between the content of referral letters and illness severity, with 95% confidence intervals calculated by Fisher's z-transformation to indicate the precision of each estimate. Relevant comorbidities ($rs = 0.111$, 95% CI -0.00 to 0.22 , $p = 0.050$) and results of investigations to date ($rs = 0.193$, 95% CI 0.08 to 0.30 , $p = 0.001$) showed weak, positive associations with illness severity; all other content items, and the composite content score ($rs = 0.069$, 95% CI -0.04 to 0.18 , $p = 0.228$), showed no significant association. As sixteen correlations were tested, a Bonferroni-corrected threshold of $\alpha \approx 0.003$ was also considered: the association with investigation results remained significant under this stricter threshold, whereas the comorbidities association did not and should be interpreted as an exploratory, hypothesis-generating finding rather than a confirmed association.

Table 2: Association between content of referral letters and illness severity.

Content of the Referral Letters	Spearman Coefficient (rs)	95% Confidence Interval	p-value
1. Patient demographics	0.073	-0.039 to 0.183	0.197
2. Initial statement identifying reason for referral	-0.029	-0.140 to 0.083	0.605
3. Description of chief complaint	0.007	-0.104 to 0.118	0.904
4. Description of associated symptoms	0.077	-0.035 to 0.187	0.175
5. Relevant comorbidities	0.111	-0.000 to 0.220	0.050
6. Past medical history	-0.015	-0.126 to 0.097	0.791
7. Past surgical history	-0.047	-0.158 to 0.065	0.413
8. Relevant psychosocial history	-0.069	-0.179 to 0.043	0.225
9. Current medication list	0.026	-0.086 to 0.137	0.652
10. Allergies	0.002	-0.109 to 0.113	0.974
11. Relevant clinical findings	0.097	-0.015 to 0.206	0.090
12. Results of investigations to date	0.193	0.083 to 0.298	0.001*
13. Outline of management to date	0.084	-0.028 to 0.194	0.142
14. Provisional diagnosis or clinical impression	0.017	-0.095 to 0.128	0.772
15. Statement of what is expected from the referral	0.066	-0.046 to 0.176	0.249
Composite content score	0.069	-0.043 to 0.179	0.228

rs — Spearman rank correlation coefficient. 95% confidence intervals calculated by Fisher's z-transformation of rs ($n = 310$ for all rows).

*Statistically significant at the Bonferroni-corrected threshold ($\alpha \approx 0.003$).

Discussion

This study examined how effectively family physicians in training communicate important patient information through referral letters, an essential tool that specialists use to understand a patient's condition before consultation. By applying standardized methods to assess both the content quality of the letters and the severity of patients' illnesses, the study highlights areas of strength as well as aspects that require improvement. Although only a minority of the letters were classified as highly informative, the results show that physicians tended to document more detailed information (such as relevant comorbidities and investigation results) when patients presented with more severe illness. These findings offer useful insight into how referral

communication can be strengthened to support better coordination and decision-making across different levels of care.

Content Quality of Referral Letters

About one-quarter of the referral letters in this study contained sufficient information to enable appropriate triage decisions at the receiving end. This finding aligns with that of Faramarzi et al., who reported that only 26% of referral letters from Family Physicians to Otolologists in Iran contained adequate clinical information for decision-making.¹⁰ Similarly, Haeusler et al. observed in a cross-sectional study conducted in South Africa that triage decisions could be made based on the content of only 35% of referral letters from general practitioners to the medical outpatient department.¹¹ This study found that about three-fifths of the referral letters were fairly informative, while about 15% were unhelpful. These findings are consistent with those of Ugwu et al., who, in a cross-sectional study assessing the pattern and quality of referrals to a Haematology Department, reported that over one-tenth of the referral letters were unhelpful.¹² Similarly, Adeleye et al. in a study conducted in Ibadan on the quality of referrals to a specialist diabetes clinic of which about 15% originated from clinics run by family physicians, observed that the provision of essential clinical information necessary for effective patient triage and quality specialist review was generally unsatisfactory.⁴ The suboptimal content quality of referral letters observed in the present study may be attributable to a combination of health system-related, physician-related, and referral form-related factors, though none of these were directly measured here and their contribution remains speculative. Potential contributors might include inadequate training on the importance and structure of well-written referral letters, workforce shortages leading to excessive workloads and limited time for proper documentation, and the absence of a functional feedback mechanism to reinforce good referral practices or guide improvement of substandard ones.¹³ Variations in individual physicians' perceptions of the purpose of a referral letter — as a communication and continuity-of-care tool versus a routine administrative requirement — may also plausibly contribute, though this too was not directly assessed in the present study.

Content and Completeness of Referral Letters: Gaps, Patterns and Comparative Insights

About half of the referral letters did not include

an initial statement identifying the reason for the referral, that is, stating if it was a request for a consultant's opinion, for co-management or for the specialist to take over management. Interestingly, this was similar to the findings of the South African study by Haeusler et al. on quality of referrals in which over 80% of letters were free-form letters and the others written with the South African national template.¹¹

Similar to the studies by Esan et al. and Ugwu et al., in which patient demographics were documented in over 90% of the letters, patient demographics were documented in all referral letters in this study.^{5,12}

The patient demographics were, however, poorly documented in four-fifths of cases, similar to the findings of Janati et al. in a study assessing the quality of referral letters written by general practitioners to cardiologists and gynaecologists.¹⁵ Most letters in this study had a good description of the presenting complaint but fell short by over 50% in the description of associated symptoms, a pattern also noted by Esan et al.⁵

Relevant clinical findings were not included in about half of the referrals, possibly reflecting that clinical findings judged unremarkable were not transcribed into the letter or that time constraints occurred during a busy clinic; whether examination itself was omitted cannot be determined from this documentation-based study.¹⁴ This was similar to the finding by Janati et al., in which examination findings were included in about half of the letters that used a structured template and in only about 4% of the free-form letters.¹⁵ Also, in the study by Esan et al., less than 20% had examination findings documented.⁵ This might, however, be because the Esan study involved psychiatry referrals and many physicians may not have the mental state examination readily at their fingertips or may find it cumbersome.

The field for relevant comorbidities was filled in about a third of cases in this study, very similar to the findings of Esan et al.⁵ The patient's past medical and surgical history fields were both filled in over 80% of cases, unlike the findings by Esan et al., in which only about 20% documented past medical history and about 0.4% included past surgical history.⁵ This variance may be because theirs was strictly a study of free-form psychiatry referrals and less attention was paid by the referring physicians to elements of the history other than the chief complaint. The findings in this study were, however, similar to those of Janati et al., in which medical and surgical history were included in over 85% of structured-template letters.¹⁵ Relevant psychosocial history was not included in about half of the referrals; this was even less frequently documented in the Esan study, in which this field was completed in only 12% of cases, and in the study by Janati et al., in which it was not included in any letters, either structured or free-form.^{5,15} This was unexpected, given that obtaining a psychosocial history is a key feature of the biopsychosocial approach to care adopted in the Department of Family Medicine.

The patient's current medication list was included in over 80% of cases; however, in about a third of these, medication doses were not stated. This contrasted with the findings of studies by Esan et al. and Adeleye et al., in which about 20% and 30% included current medications, respectively.^{4,5} The use of the referral template in the index study might account for this variance.

Results of investigations to date were documented in slightly less

than two-thirds of referrals. This was much lower in the study by Esan et al., in which investigations were documented in only 3.2% of letters, although this might be because many clear-cut psychiatry cases are diagnosed clinically and may not require investigations.⁵

Outline of management to date was not included in about three-quarters of referrals, similar to the findings of Esan et al., possibly because the referring physicians felt this might have been captured by the current medications and investigations done to date.⁵ This, however, leaves out possible hospitalisations or treatments such as blood transfusion or chemotherapy that might have taken place before presentation. In the study by Ugwu et al., which involved patients already on admission, investigations done and current medications were stated in less than a quarter of patients.¹² Adeleye et al. also found that referral letters were deficient in medication history, including dosages, as well as information on basic laboratory tests already done or requested.⁴ In our practice setting, information on medication history can sometimes be difficult to obtain directly from patients because many do not know the names or dosages of their medications. This might lead to unnecessary repetition of investigations or treatments and possible medication errors. The provisional diagnosis/clinical impression was stated in almost all (99%) letters in this study, better than the 69% observed by Ugwu et al.¹² This might corroborate Rash et al., who found diagnosis to be one of the most valued components of a referral letter from the referring physicians' perspective.¹⁶

The statement of what is expected from referral was not completed by most (99.7%) referring clinicians. This is likely because the current proforma does not include a dedicated field for this information. This finding was similar to that of Janati et al., in which none of the letters included a statement of what was expected from the referral.¹⁵

It might have been expected that the referral template would improve the quality of referral letters, but the evidence appears mixed. Some studies have shown improvement in referral-letter quality with structured templates, while others have not shown a similar benefit.¹³ A major constraint of referral forms with fixed-size boxes is that they may limit the amount of information that can be included or inadvertently suggest that only limited information is required in a particular field.

Results of investigations to date showed a weak positive association with patients' illness severity that remained statistically significant after Bonferroni correction. The association with relevant comorbidities was borderline at the conventional threshold and did not remain significant after correction for multiple testing; the overall content quality of the referral letters was not significantly associated with patients' illness severity. This was somewhat unexpected, as one might have reasoned that more severely ill patients would prompt more detailed referral letters to aid the triage process at the receiving end; however, given the weak magnitude of even the significant correlations observed, illness severity does not appear to be a strong driver of referral-letter content quality in this setting. There is a paucity of existing literature for direct comparison with this finding. Multiple unmeasured factors might plausibly influence the content quality of referral letters, such as time constraints, or the possibility that some clinicians regard the referral letter as a routine procedural step rather than a clinical

communication tool in its own right; these remain hypotheses for future study rather than conclusions supported by the present data.

Implications for Policymakers

1. Policymakers should mandate ongoing training programmes for Family Physicians and other primary care providers on effective referral writing, emphasizing completeness, clarity, and relevance.
2. Establish systems for routine monitoring and auditing of referral letters to identify gaps in communication and drive improvements in quality.
3. Use evidence on referral letter quality to inform policies that guide patient triage, ensuring that high-severity cases receive timely specialist attention regardless of the letter's quality.

Implications for Clinical Practice

1. Clinical supervisors should actively review and provide feedback on trainees' referral letters to build competence and adherence to best practices.
2. Clinicians should view referral letters not merely as administrative tasks but as vital communication tools that affect patient care and prioritization.

Limitations

This study was conducted in a single tertiary teaching hospital, which may limit the generalisability of its findings to other teaching hospitals or healthcare settings with different structures or referral practices. In addition, the evaluation focused solely on the content of the referral letters, without assessing the style or linguistic quality of writing, which may also influence communication effectiveness.

The number of residents who authored the 310 letters, and the distribution of letters per resident, was not recorded. As multiple letters may have originated from the same resident, observations may not have been fully independent; this could not be adjusted for in the analysis, and findings should be interpreted at the level of the letter rather than the individual resident. Similarly, while the two assessors independently scored all letters and the mean score was used in analysis, no formal measure of inter-rater agreement was calculated; future replications of this instrument should report such a measure. As discussed above, the absence of a dedicated "expected outcome of referral" field on the institutional proforma likely underestimated total content scores systematically across nearly all letters, and this should be borne in mind when interpreting the absolute quality categorisation reported here.

Suggestions for Future Research

Further research is warranted to explore factors associated with the content quality of referral letters, to assess the impact of referral letter content quality on patient outcomes, and to evaluate the effectiveness of targeted interventions such as structured training programmes, in improving the content quality of referral communication.

Conclusion

This study highlights significant gaps in the content quality and completeness of referral letters written by family physicians in training despite the use of a structured referral proforma. Although referral communication remains a critical component of coordinated patient care, many letters lacked essential clinical information, and these deficiencies may impede effective triage and continuity of care

at the receiving end. Strengthening training on referral writing and instituting feedback mechanisms between primary care providers and specialists are essential steps that might improve the content quality of referral communication and possibly optimise patient outcomes.

Authors' Contributions

O.O., A.E. and A.M. were involved in the conceptualisation, design of methodology, data collection, presentation/discussion of findings and final approval of the manuscript.

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