

RESEARCH ARTICLE

Clinical audit of medical referral notes at Bangladesh Medical University Hospital



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Abstract

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Background: Medical referral notes are essential for smooth patient care transitions between healthcare providers. Poorly organised or incomplete referrals can cause delays in treatment, miscommunication, and risk to the patients. This clinical audit assessed the quality of medical referral notes at Bangladesh Medical University (BMU) Hospital regarding their compliance with established standards.

Method: A cross-sectional study was carried out on 113 referral notes gathered from various departments in April 2025. Eight audit standards were adapted from BMU's existing referral notes. Trained auditors collected the completed referral notes and extracted data from the notes.

Result: About seven in ten (71.7%) of referral notes had date and time written properly. Most referrals (81.4%) were sent to faculty members, 65.5% having clear justification and 46.9% having full clinical information. About six in ten (58.4%) responded timely with proper explanations (61.1%), and a follow-up plan (65.5%). The study revealed considerable deficiencies. Overall, 46.9% of them met all required standards.

Conclusion: More than half of the referral notes did not meet the required standards. We recommend the introduction of an electronic referral system with a provision of periodic audits to maximise healthcare quality.

Key messages

More than half of the referral notes at Bangladesh Medical University Hospital did not meet required standards, highlighting a large gap in medical referral documentation in Bangladesh's top tertiary care hospital. Response from the concerned clinicians also was inadequate. By introducing an electronic system for referral and periodic evaluation, Bangladesh Medical University can improve referral quality to improve patient care.

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Introduction

Clinical audits are systematic reviews of clinical practice aimed at assessing and enhancing the quality of patient care by comparing current practices against established standards [1]. Medical referral notes act as a vital communication tool among healthcare providers, ensuring continuity of care, accurate diagnosis, and prompt treatment [2]. Poorly written referral notes can cause delays in patient management, miscommunication, and suboptimal clinical outcomes [3]. Therefore, evaluating the quality of referral documentation by the service providers are crucial for improvements of healthcare. The success of medical referrals depends on the completeness, clarity, and relevance of the information provided [4]. Studies have indicated that incomplete or vague referral letters contribute to diagnostic mistakes, unnecessary tests, and increased healthcare costs [5,6].

A well-organised referral note should include patient demographics, clinical history, examination findings, provisional diagnosis, and clear referral objectives [7]. However, audits across different healthcare settings show significant variation in the quality of referral documentation, with key elements often missing [8]. In low- and middle-income countries, these challenges are intensified by limited resources, high patient volumes, and insufficient training in medical documentation [9,10]. Even in high-income settings, variability in referral quality continues, emphasising the need for standardised templates and ongoing professional training [11]. Clinical audits provide a systematic way to assess compliance with best practices, pinpoint deficiencies, and apply corrective measures. [12]. Previous studies have demonstrated that audit-driven quality improvement initiatives result in improved patient outcomes and more efficient healthcare systems [13].

Anecdotal reports from clinicians at Bangladesh Medical University (BMU) indicated frequent issues with referral quality, such as missing information and ambiguous instructions. This audit was initiated to objectively examine the completeness and accuracy of referral notes, identify common deficiencies, and suggest evidence-based improvements.

Methods

This clinical audit was conducted on referral notes written in April 2025. One hundred thirteen referral notes were collected from the Medicine and Allied departments and the Surgery and Allied departments located in the blocks C and D. The inclusion criteria were inter-departmental referrals. Duplicate referrals were excluded.

Referral notes

BMU's existing referral note format was considered the audit standards, having following eight indicators:

Referral side

Referral date and time

The referral should specify the date and time it was composed. Proper documentation ensures accountability and facilitates tracking delays in response. An absence of a clearly written referral date and time makes it difficult to evaluate timelines.

Referral recipient

Specifies the recipient's designation (e.g., Faculty/Medical Officer/Student) and helps to determine whether the referral reached the appropriate level of expertise.

Type of referral

There are two options: urgent and routine. Urgent referral requires immediate attention within an hour (e.g., life-threatening conditions). Routine referral can be responded within 24 hours.

Clinical information

The referral format includes relevant history (symptoms, duration, medical history, etc.), physical findings (vitals, examination notes), and lab/imaging results (if available) to support the referral.

Reason for referral

There is a large space for writing a clear justification and expected action from the respondent. Explain why the patient is referred (e.g., specialist opinion, further tests), and what action is anticipated (e.g., surgical assessment, diagnostic confirmation).

Referral respondent

This indicates who acknowledged or acted upon the referral and helps evaluate whether the responder had sufficient expertise.

Response side

Response date and time

The responding clinician should record the date and time in the format.

Response duration

It was calculated by subtracting the response time for the referral time. Perfect timing indication if the response was within the expected timeframe (e.g., urgent < 1 hour, routine < 24 hours).

Response quality

A proper explanation includes assessment, treatment plan, and a clear instruction.

Data collection and analysis

Data were extracted by trained auditors using a standardised checklist. The auditors were physicians who had completed structured training to understand referral standards (e.g., required clinical elements, urgency criteria), apply audit tools consistently (e.g., checklists), and reduce bias (e.g., avoiding subjective interpretations of "adequate" documentation). Auditor training was conducted by the authors at the Department of Internal Medicine of BMU covering referral standard criteria defining a "complete" referral (e.g., history, examination, labs), checklist utilisation, and maintaining confidentiality and objectivity. Descriptive statistics (numbers and their corresponding percents) were used to analyse compliance.

Results

In this clinical audit, we found that the 71.7% referral notes had properly written referral dates and times. The referrals were mostly (88.5%) sent to the faculty members. Routine referrals (within 24 hours) accounted for 73.5% of the instances. Fully documented clinical information was present in 46.9% of cases. The reason for referral with a clear justification was provided in 65.5% notes (Table 1).

Referrals were responded mostly by faculty members (81.4%), with a perfect response time (58.4%) and proper explanations (61.1%). There was no date or time in case of 28.3% of the notes. In 55.8% referral notes, response time and dates were not written. Only 46.9% met all required standards.

Table 1 Clinical audit standard-based findings in referral notes (n=113)

Clinical audit standards	Number (%)
Referral side	
Referral date and time written	
Date and time	81 (71.7)
Date only	28 (24.8)
No date and time	4 (3.5)
Type of referral notes	
Routine	83 (73.5)
Urgent	13 (12.4)
Not specified	5 (4.4)
Clinical information written in referral notes	
History	108 (95.6)
Physical examination	53 (46.9)
Lab investigation	79 (69.9)
Reason written in referral notes	
Clearly	74 (65.5)
Unclearly	39 (34.5)
Type of respondent who responded to the referral notes	
Faculty	92 (81.4)
Student	6 (5.3)
Not specified	11 (9.8)
Response side	
Response date and time	
Date and time	50 (44.2)
Date	42 (37.2)
No date and time	21 (18.6)
Response duration	
Perfect time	66 (58.4)
Delayed response	25 (22.1)
Not responded	5 (4.4)
Response with proper explanation	
Written	69 (61.1)
Not written	44 (38.9)

In addition, we explored whether there was any follow-up plan in the referral reply although it was not in the list of the standards. Such a plan was mentioned by 65.5% of the responding clinicians (Figure 1).

Discussion

The audit revealed a large variability in referral quality, with critical omissions that could impact badly patient care. The absence of date and time, incomplete clinical information, delayed response time, lack of proper explanation, and lack of follow-up plans were particularly concerning, as they may lead to inappropriate and delayed management. Less than half of referral notes met all required standards.

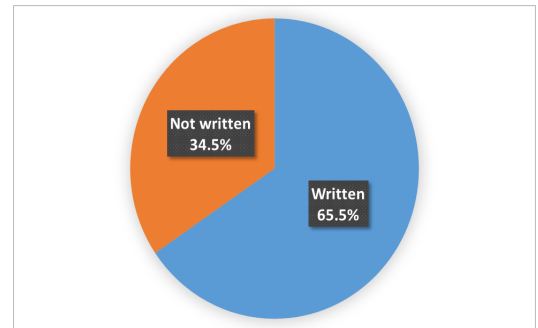


Figure 1 Follow-up plan suggested by the responding clinicians

The BMU currently uses a paper-based referral note. Transitioning to electronic systems for documentation and referrals may enhance the quality and legibility of medical notes, reduce errors and improve compliance with standards. Our compliance with proper date/time documentation, aligns closely with the finding of Johnston *et al* (68%) [1]. Similarly complete clinical information aligns almost exactly with the findings of Pronovost *et al.* (47%) on the adherence standards [14]. Our finding of 65.5% referrals with clear justification remains below the 82% standard reported by Wright and colleagues [13].

Perfect response time in our analysis (58.4%) was lower than that reported by others (61.1% - 78.0%) [15,16]. Follow-up plan documentation (65.5%) failed to reach the 80% standard demonstrated in Shojania and Grimshaw's optimal practice model [17].

Most concerning was our finding that less than half of referrals met all standards. This gap underscores the need for systemic interventions like those proposed by Dixon-Woods and Martin, whose framework achieved 89% sustained improvement through continuous quality monitoring [18].

Our results support WHO's recommendation for standardized referral protocols in low-compliance settings [19]. Moreover, this study supports global efforts to strengthen healthcare systems through ongoing quality improvement and patient-centred care. Given the increasing focus on interdisciplinary collaboration in modern healthcare, optimising referral processes is essential for reducing errors and enhancing clinical efficiency [20].

This study has limited generalisability as it was done at Bangladesh's top academic hospital for a short period. However, we presume the situation is similar or even worse in other tertiary-level hospitals, such as medical college hospitals and specialised institutes.

Conclusion

The clinical audit identified large gaps in referral documentation and processing, including incomplete clinical information, delayed responses and lack of follow-up plans. We recommend introduction of an electronic system for referral notes with an alert system, periodic training, and audits for maximizing the benefits.

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Author contributions

Conception or design of the work; or the acquisition, analysis, or interpretation of data for the work: KAA, MAK. *Drafting the work or reviewing it critically for important intellectual content:* KAA, MAK, KMM, AAF, MHHS, MMAB. *Final approval of the version to be published:* KAA, MAK, KMM, AAF, MHHS, MMAB. *Accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved:* KAA, MAK, KMM, AAF, MHHS, MMAB.

Conflict of interest

We do not have any conflict of interest.

Data availability statement

We confirm that the data supporting the findings of the study will be shared upon reasonable request.

Supplementary file

Supplementary file 1: Bangladesh Medical University Referral Notes format.

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