DOI: 10.7860/JCDR/2026/85966.24137

Original Article

Dentistry Section

Completeness and Accessibility of Oral Cancer Discharge Summaries: A Retrospective Clinical Audit

AKSHARA MODAK[1], PRATIBHA RAMANI[2], DEEPAK NALLASWAMY VEERAIYAN[3], K MURUGESAN[4]

ABSTRACT

Introduction: Oral cancer discharge summaries are crucial for delivering high-quality care and guiding future treatment planning after surgical management. They summarise essential clinical information required for follow-up, adjuvant therapy decisions, and multidisciplinary coordination. However, incomplete or inaccurate documentation can compromise patient safety and continuity of care. While several studies have evaluated the quality of clinical records, limited evidence specifically assesses the completeness and accessibility of oral cancer discharge summaries, highlighting the need for systematic evaluation.

Aim: To assess the completeness of oral cancer discharge summaries using a standardised approach.

Materials and Methods: A retrospective clinical audit was conducted on discharge summary reports of 93 oral cancer patients who underwent surgical management between January 2023 and December 2023 at Saveetha Dental College and Hospitals, Chennai, Tamil Nadu, India, using total enumerative sampling of all eligible cases. Discharge summaries prepared in the Department of Oral and Maxillofacial Surgery were evaluated by investigators from the Department of Oral Pathology. A scoring system was used to evaluate 28 parameters covering key aspects of documentation, including patient identification details, clinical history, treatment details, discharge information, and Tumour Node Metastasis (TNM) staging. Each parameter was assessed using a binary scoring system (1=documented, 0=missing) with a maximum score of 28. The availability of discharge summaries in the Dental Information Archival System (DIAS), the Institutional electronic health record system, was also recorded to identify cases where discharge reports were not uploaded to the online database. Descriptive statistics were used for statistical analysis.

Results: Of the 93 patients who underwent surgical management for oral cancer, 54 (58%) of discharge summaries were available in the Institutional online DIAS, whereas 39 (42%) were not uploaded to the online database and were analysed separately as a measure of documentation availability. Among the available discharge summaries (n=54), 19 cases (35.2%) achieved complete documentation with a score of 28/28, while 17 cases (31.5%) scored 27/28, indicating near-complete documentation. The documentation completeness score among available summaries ranged from 4-28, with a mean score of 24.83±5.85 and a median (interquartile range) score of 27 (25.75-28). The most frequently omitted parameter was the departmental stamp of the Institution, 23 cases (42.6%), followed by TNM staging, which was missing in 22 cases (40.7%).

Conclusion: Complete and accessible documentation in oral cancer discharge summaries is essential for ensuring patient safety and effective healthcare delivery. Implementation of standardised discharge summary templates, regular documentation audits, and improved digital record management may enhance the quality and availability of discharge documentation.

Keywords: Clinical audit, Documentation, Health, Mouth neoplasms, Patient discharge summaries, Surgery

INTRODUCTION

Raising healthcare costs and increasing life expectancy have placed increasing demand for improved healthcare [1]. Analysing the appropriateness of hospital admission and length of stay has been considered burdensome, as there was no standard reference [2]. Evaluation of oral surgery case records is essential to ensure high-quality patient care and efficient utilisation of the available resources. Authentic documentation aided in patient safety and informed managerial decisions, bringing to light their significant role in the delivery of satisfactory healthcare [3]. Several authors reported that insufficient data quality in clinical records may be suggestive of below-average care and can be associated with detrimental patient safety incidents, as incomplete, fragmented, or poorly integrated health data may negatively influence clinical decision-making and healthcare outcomes [3-6]. A systematic review claimed that numerous countries raised concerns regarding incompleteness, inaccuracy, and unreliability of records [7]. Based on evidence, few reports accentuated that substandard record maintenance could lead to severe consequences [8]. Safety checklists are being employed in variable arenas outside of medicine, namely, the aviation industry to help Institutionalise performance and minimise human factor-related errors [9]. Educational interventions were shown to significantly improve documentation entered into medical records [7]. Comprehensive discharge forms were observed to be crucial for patient safety and continuity of care, particularly in the context of surgical management of oral cancer patients.

Oral Squamous Cell Carcinoma (OSCC) requires particular attention owing to the high caseload encountered in clinical practice in India, largely attributed to the widespread habit of tobacco use and smoking [10,11], along with the high mortality rate associated with the disease, with nearly 50% of patients dying within five years, often due to delayed diagnosis and presentation at advanced stages (III and IV) [12]. Emerging evidence indicated that microbial factors may have also contributed to disease progression, potentially adversely affecting survival outcomes [13]. In addition, the complexity of tumour staging further complicated management because of rapid disease progression and the need for timely surgical intervention [13-16]. These factors necessitated precise and comprehensive documentation of tumour characteristics, TNM staging, surgical procedures, and treatment planning to ensure appropriate clinical decision-making, continuity of care, and effective follow-up [11]. Since discharge summaries provided essential clinical information

related to diagnosis, further treatment, and patient management, their evaluation through clinical audit would provide an important measure of the quality and completeness of medical documentation [17].

Hospital care constituted a significant portion of healthcare costs, and efficient record-keeping was vital to manage these expenses effectively. Improved recording of hospital data led to enhanced articulation between healthcare providers and could contribute to better patient outcomes and more secure healthcare [18]. With rising demands to enhance the quality of medical practice and hospital services, alongside increasing expectations and costs of healthcare, the emphasis on the organisation and content of clinical records has become increasingly significant [19].

Despite the recognised importance of accurate clinical documentation, several studies and clinical audits evaluating oral cancer records have reported deficiencies in documentation completeness and missing data across diagnostic and treatment parameters, highlighting the need for systematic evaluation of discharge summaries and case records to improve documentation practices and patient care outcomes [3,8,18-20].

However, assessing the completeness of documentation is challenging without a standardised criterion. Standardised discharge summary guidelines have been recommended to improve documentation quality, ensure continuity of care, and enhance multidisciplinary communication in clinical practice [21,22]. Standardised discharge summary guidelines, such as the UK National Prescribing Centre minimum dataset and mandated components by the Joint Commission, have emphasised the importance of structured documentation to improve continuity of care and communication between healthcare settings, although audit-based evidence suggested that adherence to such recommendations remains variable [23,24].

Building a competent and adaptable healthcare workforce is essential for fostering a culture of safety within any healthcare system [18] and enhancing the quality of care, including effective clinical record management [18]. Hence, the study aimed to assess the completeness of oral cancer discharge summaries through a retrospective clinical audit. It was hypothesised that deficiencies in documentation completeness would be identified in oral cancer discharge summaries.

MATERIALS AND METHODS

This retrospective descriptive clinical audit with total enumerative sampling (all eligible cases were included) was conducted to evaluate the completeness of discharge summaries of patients who underwent surgical management for oral cancer during January 2023 to December 2023 at Saveetha Dental College and Hospitals, Chennai, Tamil Nadu, India. The year 2023 was selected to analyse the most recent complete set of discharge records available in the Institutional database at the time of data collection, ensuring uniformity in electronic documentation practices. Data collection and auditing of discharge summaries were conducted between June 2024 and November 2024. The patients included in the study were treated in the Department of Oral and Maxillofacial Surgery, while the retrospective clinical audit and evaluation of discharge summaries were conducted independently by investigators from the Department of Oral Pathology. Ethical clearance was obtained from the Institutional Human Ethical Committee (SDC-IHEC) registered under the Government of India: IHEC/SDC/FACULTY/23/OPATH/120 and is compliant with the requirements of International Conference on Harmonisation guidelines related to Good Clinical Practice.

Inclusion criteria: Patients of all age groups and genders who were histopathologically diagnosed with oral cancer and underwent surgical management in the Department of Oral and Maxillofacial Surgery, between January and December 2023 were included in the study from the institutional online DIAS at the time of data collection.

Exclusion criteria: Patients treated for non-malignant oral lesions or patients who did not undergo surgical management for oral cancer during the study period were excluded from the study.

Sample Size: As this was a retrospective clinical audit, all eligible discharge summaries available during the study period of data collection were included using total enumerative sampling. Therefore, formal sample size calculation was not considered necessary. Of the 93 patients who underwent surgical management for oral cancer, 54 discharge summaries accessible in the institutional DIAS were evaluated using total enumerative sampling. All patients were treated in the Department of Oral and Maxillofacial Surgery, followed by evaluation of the clinical audit in the Department of Oral and Maxillofacial Pathology.

Study Procedure

Data source and data collection: Clinical data were retrieved from the online DIAS of Saveetha Dental College and Hospitals. Discharge summaries of eligible patients were reviewed for documentation completeness. Records were considered eligible if a discharge summary was available in the DIAS database containing the institutional discharge summary template, irrespective of missing individual parameters. Additionally, the presence or absence of discharge summaries in the Institutional electronic database system was recorded for all cases to identify cases that were not uploaded to the system as a separate measure of documentation accessibility. Documentation completeness and documentation availability were treated as two distinct outcome measures. Completeness was evaluated only for discharge summaries available in the DIAS system (n=54), whereas availability was defined as the proportion of total eligible cases in which discharge summaries were uploaded to the institutional database (n=93). Other clinical documentation related to surgical procedures was available in the DIAS system, while only the discharge summaries were not accessible online for certain cases.

Development of the evaluation checklist: The evaluation checklist was developed based on key elements recommended for hospital discharge summaries in previously published clinical audit and quality-improvement studies [25-27] assessing the completeness of discharge documentation and communication and was subsequently adapted to correspond with the standard discharge summary format utilised in the Department of Oral and Maxillofacial Surgery. The parameters were modified to include oral oncology-specific clinical details such as TNM staging, operation notes, and surgical team documentation relevant to oral and maxillofacial surgical practice. The checklist consisted of 28 parameters covering patient identification details, clinical history, examination findings, diagnosis, treatment details, discharge information, and documentation authentication. The checklist was reviewed by subject experts for content validity before implementation.

Discharge summary parameters: The parameters evaluated for completeness of discharge documentation are summarised in [Table/Fig-1]. The Institutional case record number and Inpatient Department (IPD) number were recorded. Documentation parameters relating to healthcare personnel included the name of the operating oral and maxillofacial surgeon, the surgical fellow involved in the procedure, and the postgraduate student participating in patient management or discharge documentation.

The evaluation checklist consisted of 28 parameters categorised into five domains: Patient identification, admission details, clinical assessment and diagnosis, treatment details, and discharge information and documentation. These parameters were assessed using a binary scoring system to determine documentation completeness in oral cancer discharge summaries.

Patient identification	Admission details	Clinical assessment and diagnosis	Treatment details	Discharge information and documentation
1) Institutional case record number	6) Date of admission	9) Chief complaint	19) Treatment performed	22) Discharge medications
2) Inpatient Department (IPD) number	7) Date of surgery	10) History of presenting illness	20) Operation notes	23) Discharge advice
3) Patient name	8) Date of discharge	11) Past medical history	21) Course in hospital	24) Name of operating oral and maxillofacial surgeon
4) Age		12) Past dental history		25) Surgical fellow's name
5) Gender		13) Past surgical history		26) Name of postgraduate student involved in patient management or discharge documentation
		14) Personal history		27) Signature of the operating surgeon or responsible consultant
		15) General examination findings		28) Departmental stamp of the Institution
		16) Local examination findings		
		17) Final diagnosis		
		18) TNM staging (if applicable)		

[Table/Fig-1]: Parameters used to evaluate completeness of discharge summary documentation.
Data from the discharge summaries were manually entered into Microsoft Excel using the pre-defined parameters to assess the completeness of documentation.

Scoring method: A binary scoring system was used to assess the completeness of discharge summary documentation. Each parameter was assigned a score of 1 if documented and 0 if missing, with a maximum possible score of 28 per discharge summary. This scoring system was implemented only for discharge summaries available in the online portal. Cases in which discharge summaries were not uploaded were excluded from completeness scoring and analysed separately under document availability. The scores were recorded in Microsoft Excel and subsequently analysed using descriptive statistics.

Data were independently extracted by two Oral Pathology investigators (postgraduate residents) using a predefined checklist. The reviewers were trained by a senior faculty member before data collection. A pilot assessment of 10 discharge summaries was conducted to standardise the evaluation criteria. Discrepancies between the investigators were resolved by consensus. Interobserver agreement was assessed using Cohen's kappa statistic.

STATISTICAL ANALYSIS

Statistical analysis was performed using IBM Statistical Package for Social Sciences (SPSS) version 23.0. Descriptive statistics, including mean, median, interquartile range, frequency, and percentage, were used. Documentation completeness scores were summarised for available discharge summaries (n=54), while availability was reported as a proportion of total eligible cases (n=93).

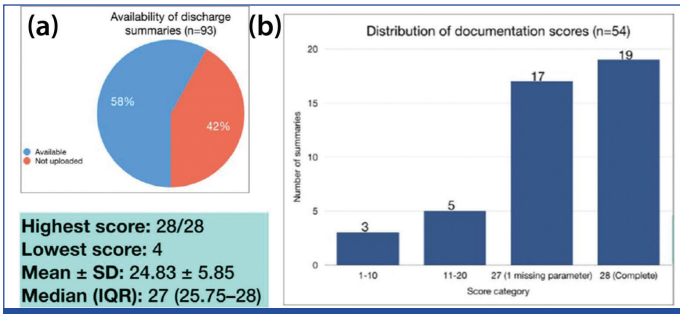
RESULTS

Of the 93 patients who underwent surgical management for oral cancer in 2023 in the Department of Oral and Maxillofacial Surgery, 54 (58%) of discharge summaries were available in the online DIAS, whereas 39 (42%) of discharge reports were available in departmental records but had not been uploaded to the online database. These findings reflect limitations in documentation accessibility rather than completeness. Documentation completeness was assessed using a structured scoring system adhering to a 28-parameter checklist. When restricted to discharge summaries available in the online system (n=54), the mean documentation score was 24.83±5.85. The median (interquartile range) score was 27 (25.75–28), with scores ranging from 4 to 28, indicating a high level of documentation completeness among available records.

Discharge summary availability was 54 (58%), while 39 (42%) were not uploaded to the online system and were excluded from completeness analysis. These cases were reported separately as a measure of documentation availability.

Distribution of Documentation Scores

The distribution of discharge summary scores is shown in [Table/Fig-2]. Among available records (n=54), 19 discharge summaries (35.2%) achieved the maximum score of 28/28, indicating complete documentation of all evaluated parameters. Seventeen summaries (31.5%) had only one missing parameter (score 27/28). A small proportion of summaries had partial documentation, with five cases scoring between 11-20 and three cases scoring between 1-10. Discharge summaries of 39 cases (42%) were not uploaded to the online record system despite completion of the surgical procedures.



[Table/Fig-2]: (a) Availability of discharge summaries in the Institutional database (n=93); (b) Distribution of documentation completeness scores among available discharge summaries (n=54) and Summary statistics of documentation scores.

Parameter-level Completeness

The completeness of individual documentation parameters was further evaluated among the discharge summaries available in the online system (n=54). Among the 28 assessed parameters, administrative and authentication details were more frequently missing compared to clinical documentation components.

The most frequently missing parameter was the departmental stamp of the Institution, which was absent in 23 of the 54 evaluated discharge summaries (42.6%), followed by TNM staging, which was missing in 22 applicable cases. A detailed parameter-wise documentation completeness analysis among the discharge summaries available online (n=54) is presented in [Table/Fig-3].

Parameters	Present (n=54)	Missing (n=54)
Patient name	54 (100%)	0
Age	54 (100%)	0
Gender	54 (100%)	0
Date of admission	54 (100%)	0
Date of surgery	54 (100%)	0
Date of discharge	54 (100%)	0
Final diagnosis	54 (100%)	0
Treatment performed	54 (100%)	0
Chief complaint	54 (100%)	0
History of presenting illness	54 (100%)	0

Past medical history	52 (96.3%)	2 (3.7%)
Past dental history	50 (92.6%)	4 (7.4%)
Past surgical history	49 (90.7%)	5 (9.3%)
Personal history	48 (88.9%)	6 (11.1%)
General examination findings	47 (87%)	7 (13%)
Local examination findings	46 (85.2%)	8 (14.8%)
TNM staging (applicable cases= 54)	32 (59.3%)	22 (40.7%)
Operation notes	54 (100%)	0
Course in hospital	54 (100%)	0
Discharge medications	54 (100%)	0
Discharge advice	54 (100%)	0
Operating surgeon name	52 (96.3%)	2 (3.7%)
Surgical fellow name	48 (88.9%)	6 (11.1%)
Postgraduate student name	45 (83.3%)	9 (16.7%)
Signature	42 (77.8%)	12 (22.2%)
Departmental stamp	31 (57.4%)	23 (42.6%)

[Table/Fig-3]: Parameter-wise documentation of completeness among discharge summaries available online (n=54).

The five most frequently missing parameters were departmental stamp 23 (42.6%), TNM staging expected to be documented in all applicable OSCC cases 22/54 (40.7%), signature 12 (22.2%), postgraduate student name 9 (16.7%), and local examination findings 8 (14.8%) shown in [Table/Fig-3]. Although the majority of available discharge summaries demonstrated good documentation completeness, 39 (42%) of cases did not have discharge summaries uploaded to the institutional online system.

Interobserver Agreement

The discharge summaries were independently evaluated by two investigators and interobserver agreement was assessed using Cohen's kappa statistic. An excellent agreement was observed (Cohen's κ=0.90).

DISCUSSION

The present clinical audit evaluated the completeness and accessibility of discharge summaries of oral cancer patients who underwent surgical management during 2023. Although a total of 93 surgical procedures were performed during the study period, only 54 discharge summaries were available in the Institutional online database for evaluation at the time of data collection. This finding highlighted a gap between clinical documentation and digital record accessibility within the institutional system. While documentation completeness was assessed for records available in the electronic system, the absence of discharge summaries in the institutional database reflected a limitation in documentation accessibility rather than completeness. In the present workflow, electronic availability is essential for continuity of care and multidisciplinary coordination; therefore, lack of uploading may have limited the functional utility of clinical records. Among the available discharge summaries, most clinical parameters such as diagnosis, treatment performed, and course in hospital were consistently documented, whereas certain administrative authentication elements, including signatures and departmental stamps, were more frequently missing. Similar findings have been reported in previous clinical documentation audits where administrative components such as authentication signatures, stamps and identification details were among the most frequently omitted elements despite adequate recording of clinical information using structured scoring systems [3,27,28].

However, in the present study, TNM staging was missing in several applicable cases. Accurate documentation of tumour staging is clinically important because TNM staging guides prognosis assessment, treatment planning, and follow-up management in oral cancer patients. Early detection and screening of oral cancer also play a critical role in improving clinical outcomes, further emphasising the need for comprehensive and well-documented clinical records across all stages of patient care [29]. This observation highlighted the importance of TNM staging as part of comprehensive discharge summary documentation [27].

Sharifi S et al., found that documentation was sometimes delayed due to time constraints and clinical tasks, which led to less detailed and lower-quality records [8]. In the present study, similar factors, such as heavy workload and late completion of records, may have contributed to incomplete documentation and delays in uploading discharge summaries. Failing to recognise the significance of accurate documentation in minimising hospital expenses and saving time was another factor affecting the quality of record-keeping [30]. Albagmi S reported that inaccurate clinical coding could have significant financial implications affecting hospital reimbursement claims [30], highlighting the importance of appropriate documentation and accessibility of clinical records. In the present study (2023), 42% (39/93) of discharge summaries were not available in the institutional online database, despite completion of surgical procedures, indicating gaps in digital record accessibility. Documentation completeness was therefore evaluated only among available discharge summaries.

Although the available discharge summaries demonstrated satisfactory documentation of most clinical parameters, the absence of a considerable proportion of records in the institutional online portal raised concerns regarding accessibility of patient information. In oncology practice, discharge summaries often serve as essential reference documents for subsequent treatment planning, follow-up scheduling, and multidisciplinary decision-making [31]. Therefore, the lack of timely availability of these records in digital hospital systems may pose challenges in accessing previous treatment details [32]. Incomplete or inaccessible discharge summaries may therefore have implications for continuity of care, particularly in oncology patients where accurate clinical documentation plays an instrumental role in management and follow-up.

Esmaili A et al., reported that the Appropriateness Evaluation Protocol (AEP) was a reliable and valid instrument for assessing appropriateness of hospital admissions and days of care in Iran [2]. Although the AEP primarily evaluated hospital admissions and duration of care, it highlighted the importance of structured audit frameworks for evaluating healthcare processes. In the present study, a checklist-based evaluation system adapted from previously published discharge documentation audits was used to assess the completeness of discharge summaries [25-27].

Cheng P et al., investigated poor-quality documentation in a Melbourne hospital and concluded that continuous improvement in coding quality and routine internal clinical coding audits were necessary [33]. Similar concerns were reflected in the present clinical audit, which identified gaps in documentation accessibility.

From a pathology point of view, a study that was conducted by Professor Peter Collignon's group [34] showed that only 55% of clinical documentation entries, including diagnostic and treatment-related coding data, were appropriately coded within the hospital information system. Similar inconsistencies in documentation practices may have also contributed to the incomplete accessibility of discharge summaries observed in the present study [34]. Hay P et al., discussed the detrimental results that were consequences of substandard report submissions and inaccurate disease diagnosis, which were reflected in the data and led to inadequate finances. It also affected policy decisions, raised issues with tracking performance, and compromised trend data for national and international surveillance [34]. Ramalingam K et al., reported that all the clinical details were not obtained fully due to technical reasons [35]. Comparable technical and administrative factors also influenced the completeness and accessibility of discharge documentation within institutional record systems of the present study.

Krishnamohan N et al., stated that the establishment of surgical ward round checklists immensely benefited the documentation of essential aspects of patient assessment and care [9]. Use of ward round checklist, stickers, or toolkits enhanced patient care and promoted high-standard practice of medicine [36]. A study conducted by Vahedi HS et al., showed that the documentation calibre was greatly elevated after an educational workshop [7]. These findings indicated that targeted training and standardised documentation formats could significantly improve documentation practices, which may help address the gaps in discharge summary accessibility identified in the present audit. Khoshbaten ME and Entezari M in 2010 also showed that a training workshop proved to be very useful for medical record documentation [37]. The same result was observed in multiple other studies [37-39]. Previous studies have also suggested that structured documentation templates, periodic clinical documentation audits, and targeted training programs for healthcare professionals can significantly improve the completeness and accuracy of medical records. Implementation of standardised discharge summary formats may therefore help enhance documentation quality and improve continuity of patient care. It should be noted that the present audit primarily evaluated the completeness of documentation parameters included in the institutional discharge summary template, many of which represented administrative or authentication elements such as signatures and departmental stamps. Although these components were considered essential for medico-legal validity, other clinically relevant aspects such as detailed follow-up planning, clinical correlation, and documentation of informed consent were not specifically assessed and should be considered in future documentation audits.

Limitation(s)

The present study had certain limitations. Firstly, the audit was conducted in a single tertiary care dental Institution, which may have limited the generalisability of the findings to other healthcare settings. Second, the study evaluated only the completeness of documentation parameters using a binary scoring system and did not assess the clinical accuracy of the recorded information. Third, only discharge summaries available in the Institutional online database were analysed in detail, while missing records could not be evaluated for their documentation completeness. Future multicenter studies including a wider range of oral and maxillofacial surgical procedures may provide a broader understanding of discharge documentation practices.

CONCLUSION(S)

This clinical audit identified gaps in both accessibility and completeness of oral cancer discharge summaries within the institutional online database. In oncology care, incomplete or inaccessible discharge documentation may affect continuity of care, treatment planning, and follow-up. Strengthening digital record management through standardised discharge summary templates, regular documentation audits, and training of healthcare professionals may improve the quality and accessibility of medical records. Future Institutional audits should aim to achieve documentation completeness above 90%, similar to targets proposed in previous oncology record audits. Further multicentre studies with larger sample sizes and detailed parameter-wise evaluation are recommended to better understand and improve discharge documentation practices.

REFERENCES

[1] Benevides Santos Paiva M, de Gouvêa Viana L, Melo de Andrade MV. Reduction of hospital length of stay through the implementation of SAFER patient flow bundle and Red2Green days tool: A pre-post study. BMJ Open Qual. 2024;13(1):e002399. Doi: 10.1136/bmjoq-2023-002399. PMID: 38191217; PMCID: PMC10806560.

[2] Esmaili A, Ravaghi H, Seyedin H, Delgoshaei B, Salehi M. Developing of the appropriateness evaluation protocol for public hospitals in Iran. Iran Red Crescent Med J. 2015;17(3):e19030. Doi: 10.5812/ircmj.19030. PMID: 26019898; PMCID: PMC4441772.

[3] Kakada P, Ramalingam K, Ramani P, Krishnan M. Assessment of the quality of oral squamous cell carcinoma clinical records in oral surgery with Surgical Tool for Auditing Records (STAR) scoring. BMC Oral Health. 2024;24(1):1060. Doi: 10.1186/s12903-024-04811-8. PMID: 39261854; PMCID: PMC11391798.

[4] Bernardi FA, Alves D, Crepaldi N, Yamada DB, Lima VC, Rijo R. Data quality in health research: integrative literature review. J Med Internet Res. 2023;25:e41446. Doi: 10.2196/41446. PMID: 37906223; PMCID: PMC10646672.

[5] de Andrade JBC, de Medeiros Cavalcante MAO, Lopes TLM, Treigher JMS, Balsells MD, Vasconcelos JL, et al. Discovery of data quality issues in electronic health records: profound consequences for critical care medicine applications - a systematized review. Crit Care. 2026;30(1):19. Doi: 10.1186/s13054-025-05677-0. PMID: 41508097; PMCID: PMC12784561.

[6] Syed R, Eden R, Makasi T, Chukwudi I, Mamudu A, Kamalpour M, Kapugama Geeganage D, et al. Digital health data quality issues: systematic review. J Med Internet Res. 2023;25:e42615. Doi: 10.2196/42615. PMID: 37000497; PMCID: PMC10131725.

[7] Vahedi HS, Mirfakhrai M, Vahidi E, Saeedi M. Impact of an educational intervention on medical records documentation. World J Emerg Med. 2018;9(2):136-40. Doi: 10.5847/wjem.j.1920-8642.2018.02.009. PMID: 29576827; PMCID: PMC5847500.

[8] Sharifi S, Zahiri M, Dargahi H, Faraji-Khiavi F. Medical record documentation quality in the hospital accreditation. J Educ Health Promot. 2021;10:76. Doi: 10.4103/jehp.jehp_852_20. PMID: 34084823; PMCID: PMC8057196.

[9] Krishnamohan N, Maitra I, Shetty VD. The surgical ward round checklist: improving patient safety and clinical documentation. J Multidiscip Healthc. 2019;12:789-94. Doi: 10.2147/JMDH.S178896. PMID: 31571896; PMCID: PMC6754526.

[10] Warnakulasuriya S. Global epidemiology of oral and oropharyngeal cancer. Oral Oncol. 2009;45(4-5):309-16. Doi: 10.1016/j.oraloncology.2008.06.002. Epub 2008 Sep 18. PMID: 18804401.

[11] Chenchulakshmi G, Muthukrishnan A, Nagi R. Evaluation of clinical and hematological inflammatory profile in patients treated for oral squamous cell carcinoma - a prospective cohort study. Journal of Indian Academy of Oral Medicine & Radiology. 2025;37(2):190-94. Doi: 10.4103/jiaomr.jiaomr_341_24.

[12] González-Moles MÁ, Aguilar-Ruiz M, Ramos-García P. Challenges in the early diagnosis of oral cancer, evidence gaps and strategies for improvement: a scoping review of systematic reviews. Cancers (Basel). 2022;14(19):4967. Doi: 10.3390/cancers14194967. PMID: 36230890; PMCID: PMC9562013.

[13] Selvam SP, Pandiar D. Role of candida in the pathogenesis of oral squamous cell carcinoma: a systematic review. J Clin Diagn Res. 2025;19(12):ZC05-ZC11. https://www.doi.org/10.7860/JCDR/2025/76916/22071.

[14] Bayram A, Çelebi Erdivanlı Ö; Society for Head and Neck Surgery Scientific Group. Union for International Cancer Control 9th Edition TNM Classification for Head and Neck Malignancies: What is New? Turk Arch Otorhinolaryngol. 2025;63(4):166-68. Doi: 10.4274/tao.2025.2025-11-14. Epub 2025 Dec 23. PMID: 41432020; PMCID: PMC12746165.

[15] Johnson DE, Burtness B, Leemans CR, Lui VWY, Bauman JE, Grandis JR. Head and neck squamous cell carcinoma. Nat Rev Dis Primers. 2020;6(1):92. Doi: 10.1038/s41572-020-00224-3. Erratum in: Nat Rev Dis Primers. 2023;9(1):4. Doi: 10.1038/s41572-023-00418-5. PMID: 33243986; PMCID: PMC7944998.

[16] Joshy R, Sinduja P, Priyadharshini. Histological depth of invasion and its correlation in oral squamous cell carcinoma: a retrospective study. J Popul Ther Clin Pharmacol. 2023;30(6):183-88. Doi: 10.47750/jptcp.2023.30.06.024

[17] Unnewehr M, Siemen L, Friederichs H, Windisch W, Zawy Alsofy S, Schaaf B. What do readers need? Qualitative requirements of medical discharge summaries from the recipients' perspective. Arch Public Health. 2025;83(1):104. Doi: 10.1186/s13690-025-01582-8. PMID: 40229802; PMCID: PMC11995522.

[18] Scarpis E, Brunelli L, Tricarico P, Poletto M, Panzera A, Londero C, et al. How to assure the quality of clinical records? A 7-year experience in a large academic hospital. PLoS One. 2021;16(12):e0261018. Doi: 10.1371/journal.pone.0261018. PMID: 34882705; PMCID: PMC8659650.

[19] Carpenter I, Ram MB, Croft GP, Williams JG. Medical records and record-keeping standards. Clin Med (Lond). 2007;7(4):328-31. Doi: 10.7861/clinmedicine.7-4-328. PMID: 17882846; PMCID: PMC4952891.

[20] Fateen N, Ramani P. Quality of subjective, objective, assessment, and plan-based clinical documentation and its predictive value on treatment planning in excisional biopsy cases: a retrospective study. J Lab Physicians. 2025;18:01-06. Doi: 10.25259/JLP_231_2025.

[21] Muhammed A, Fakher Aldeen Noman FAR, Abdalgadir Hamdnaalla MA, Ahmed W, Mohamed A, Taha M, et al. A structured approach to discharge documentation: lessons from dongola specialized hospital. Cureus. 2025;17(4):e81696. PubMed PMID: 40330383.

[22] Sakaguchi FH, Lenert LA. Improving continuity of care via the discharge summary. AMIA Annu Symp Proc. 2015;2015:1111-20. PMID: 26958250; PMCID: PMC4765640.

[23] Hammad EA, Wright DJ, Walton C, Nunney I, Bhattacharya D. Adherence to UK national guidance for discharge information: an audit in primary care. Br J Clin Pharmacol. 2014;78(6):1453-64. Doi: 10.1111/bcp.12463. PMID: 25041244; PMCID: PMC4256634.

[24] Kind AJH, Smith MA. Documentation of mandated discharge summary components in transitions from acute to subacute care. In: Henriksen K, Battles JB, Keyes MA, Grady ML, editors. Advances in patient safety: new directions and alternative approaches (Vol. 2: Culture and Redesign). Rockville (MD): Agency for Healthcare Research and Quality (US); 2008 Aug. PMID: 21249900.

[25] Earnshaw CH, Pedersen A, Evans J, Cross T, Gaillemin O, Vilches-Moraga A. Improving the quality of discharge summaries through a direct feedback system. Future Healthc J. 2020;7(2):149-54. Doi: 10.7861/fhj.2019-0046. PMID: 32550646; PMCID: PMC7296566.
[26] Waris B, Butt NI, Afzal A, Khizar I. Audit and re-audit of discharge summaries completeness: a strategy to improve patient care quality. Pak J Med Sci. 2025;41(10):2831-36. Doi: 10.12669/pjms.41.10.12224. PMID: 41244533; PMCID: PMC12616335.
[27] Joshi SV, Yathati K, Havaldar RR, Padole N. Audit of head and neck cancer records at a state run tertiary care referral centre in India. Clin Onco. 2021;5(1):01-03.
[28] Aarthi S, Ramalingam K, Ramani P, Krishnan M. CRABEL Score assessment for oral surgery excision biopsy case notes of oral squamous cell carcinoma. Cureus. 2024;16(4):e57394. Doi: 10.7759/cureus.57394. PMID: 38694653; PMCID: PMC11062365.
[29] Surenthar M, Mouttoukichenin G, Balasubramaniam A, Elakiya J. Artificial intelligence in the screening of oral cancer: a cross-sectional study on a novel app-based approach for primary health care settings. J Indian Acad Oral Med Radiol. 2025;37(2):215-20. Doi: 10.4103/jiaomr.jiaomr_49_25.
[30] Albagmi S. Impact of inaccurate clinical coding on financial outcome: a study in a local hospital in Najran, Saudi Arabia. F1000Res. 2024;13:820. Doi: 10.12688/f1000research.149154.1. PMID: 39184245; PMCID: PMC11342027.
[31] Zheng M, Meng C, Zhang Q, Yan X, Li N. Optimal evidence summary for discharge preparation in elderly chemotherapy patients. J Multidiscip Healthc. 2024;17:4587-600. Doi: 10.2147/JMDH.S485665. PMID: 39376535; PMCID: PMC11457782.
[32] Gurupur V, Hooshmand S, Prabhu DF, Trader E, Salvi S. Incompleteness of electronic health records: An impending process problem within healthcare. Healthcare (Basel). 2025;13:2900. Doi: 10.3390/healthcare13222900.
[33] Cheng P, Gilchrist A, Robinson KM, Paul L. The risk and consequences of clinical miscoding due to inadequate medical documentation: a case study of the impact on health services funding. Health Inf Manag. 2009;38(1):35-46. Doi: 10.1177/183335830903800105. PMID: 19293434.
[34] Hay P, Wilton K, Barker J, Mortley J, Cumerlato M. The importance of clinical documentation improvement for Australian hospitals. Health Inf Manag. 2020;49(1):69-73. Doi: 10.1177/1833358319854185. Epub 2019 Jul 14. PMID: 31303061.
[35] Ramalingam K, Krishnan M, Ramani P, Muthukrishnan A. Quality of Life Assessment with European Organisation for Research and Treatment of Cancer Questionnaire (Head and Neck Module 43) and its clinicopathological correlation among patients treated for oral squamous cell carcinoma: an exploratory study. Cureus. 2023;15(2):e34650. Doi: 10.7759/cureus.34650. PMID: 36895543; PMCID: PMC9990959.
[36] Ng J, Abdelhadi A, Waterland P, Swallow J, Nicol D, Pandey S, Zilvetti M, Karim A. Do ward round stickers improve the surgical ward round? A quality improvement project in a high-volume general surgery department. BMJ Open Qual. 2018 Jul 21;7(3):e000341. doi: 10.1136/bmjoq-2018-000341. PMID: 30057962; PMCID: PMC6059260.
[37] Khoshbaten ME, Entezari M. Determination of reeducation students and the faculty role in the improvement of medical record data files, proceeding of the 10th medical science education. Specialty Journal of Medical Education. 2010;6(1):23-24.
[38] Tavakoli N, Jahanbakhsh M, Akbari M, Baktashian M, Hasanzadeh A, Sadeghpour S. The study of inpatient medical records on hospital deductions: An interventional study. J Educ Health Promot. 2015;4:38. Doi: 10.4103/2277-9531.157218. PMID: 26097852; PMCID: PMC4456877.
[39] Purdom DT, Griffith RS, Weaver DL. A positive, systematic approach to improve inpatient medical record completion in a family practice residency program. Fam Med. 1996;28(6):411-14. PMID: 8791069.

PARTICULARS OF CONTRIBUTORS:
1. Postgraduate Resident, Department of Oral Pathology, Saveetha Dental College, Chennai, Tamil Nadu, India.
2. Professor and Head, Department of Oral Pathology, Saveetha Dental College, Chennai, Tamil Nadu, India.
3. Professor and Director, Department of Prosthodontics, Saveetha Dental College, Chennai, Tamil Nadu, India.
4. Professor and Head, Department of Oral and Maxillofacial Surgery, Saveetha Dental College, Chennai, Tamil Nadu, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:
Dr. Pratibha Ramani,
Professor and Head, Department of Oral Pathology, Saveetha Dental College,
Chennai-600070, Tamil Nadu, India.
E-mail: hod.omfpsaveetha@gmail.com

PLAGIARISM CHECKING METHODS: [Jain H et al.]
- Plagiarism X-checker: Dec 23, 2025
- Manual Googling: May 26, 2026
- iThenticate Software: May 28, 2026 (4%)

ETYMOLOGY: Author Origin

EMENDATIONS: 7

AUTHOR DECLARATION:
- Financial or Other Competing Interests: None
- Was Ethics Committee Approval obtained for this study? Yes
- Was informed consent obtained from the subjects involved in the study? No
- For any images presented appropriate consent has been obtained from the subjects. NA

Date of Submission: **Dec 19, 2025**
Date of Peer Review: **Feb 24, 2026**
Date of Acceptance: **May 30, 2026**
Date of Publishing: **Aug 01, 2026**