

## Medical Record Audit in Clinical Nursing Units in Tertiary Hospital

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**Abstract:** Auditing the Medical Record is maintained by 'proper management of health records and accurate, comprehensive record-keeping. Ensuring quality of patient care documentation can be attained through its completeness in its medical record. This parameter is essential in the continuity of care rendered by different health professionals in the hospital. In return, the medical records can promote safety and effective communication with the health care team.

**Purpose:** This research was conducted in a government tertiary hospital in Riyadh which caters Maternity and Child Care services. The estimated bed capacity of this hospital is 500. This study evaluated the completeness of the content of medical record utilizing the Patient Medical Record Content ( PMRC ) Standards of the hospital.

**Method:** Quantitative descriptive research design was used in conducting this study. The data has been collected from four (4) clinical units namely, gynecological, post-partum, pediatric, and antenatal units in a selected government tertiary hospital with 310 beds specializing in maternity and pediatric care. A purposive sampling with 10% set criterion has been used to reach the target medical records for auditing. The tool that was used in auditing the medical record is PMRC Standards of the hospital. The study was conducted between December 2014 and January 2015. Data were analyzed using the Statistical Package for Social Sciences ( SPSS ) windows, version 16.

**Result:** Each clinical unit was evaluated using PMRC Standards Tool of the hospital. In the four (4) units, the total number of medical records audited were as follows: Gynecological Unit ( n= 3 ); Post-Partum ( n= 14 ); Pediatric ( n= 6 ); Ante-natal ( n= 5 ). Twenty eight ( n= 28 ) medical records have shown that they have almost all complete content except from items like: Protocol Order, Braden Scale, Patients' Bill of Rights Forms. In items that were incomplete, the following forms were noted: Echo Reports, Radiology, Social Worker, Fall Assessment and Re-assessment, Nursing Care Plan, ER Assessment Sheet, Medication Record, Therapeutic Nutrition forms, Nurses' Progress Notes, History and Physical Examination, Nursing Admission Assessment, ER Nursing Assessment Sheet, Pain Management, Patient Family Health Education.

**Conclusion:** In this study, there were missing or incomplete important items in the medical record. Prioritizing medical records in terms of its completeness and maintaining compliance to standards can help a hospital promote safety, better collaboration and proper communication. The use of data in the medical record will lead to quality, effective nursing and medical care. In future studies, it is recommended that other criteria not only completeness can be used in evaluating medical records.

**Keywords:** Medical Record, Audit, Clinical Nursing Units

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### I. Introduction

In 1995, the Audit Commission maintained that 'proper management of health records and accurate, comprehensive record-keeping are essential to effective patient care and continuity of care between different health professionals'. This assertion was made as part of a wide-ranging report on hospital health records, (1). In 1999, there was an improved standards of keeping records with a percentage of 8% for four years, (2). As per the Joint Commission on the Accreditation of Healthcare Organizations, it should contain the following components: reason for hospitalization, significant findings, procedures and treatment provided, patient's discharge condition, patient and family instructions (as appropriate), and attending physician's signature. (3). A medical record is a systematic documentation of a patient's medical history and care which is compiled and stored by the health care providers, (4). A Medical Record Audit is a type of quality assurance task which involves formal reviews and assessments of medical records to identify where a medical organization stands in relation to compliance and standards. A medical record audit was not really a big deal several years back, (5). Clinical documentation was originally meant for providers or physicians to access important patient details to

identify medical solutions. With the minimal possibility for medical records to serve as legal records, medical record audit requirements did not play the crucial roles back then. Insurance companies did not require medical institutions to present documents to support the claims and charges being reported in accordance to the services delivered, as physicians had taken care of records, (6).

A well planned evaluation of medical records and the related clinical documentation practices allows hospitals and physicians to have an accurate view of their current standings with regard to accuracy and compliance for medical record keeping. The law requires that all actions related to medical services be recorded completely and accurately. A record should be generated whenever a health care service is involved and this includes all tests, diagnosis, treatments, and nursing care. While accurate clinical documentation is beneficial, failure to meet the legal requirements for medical records may lead to different types of risks. As these records affect the lives of individuals, each detail indicated in a certain health document must be based on facts and professional actions,(7). There are two ways by which Medical Record Audit can be done, one in terms of people performing audit and the other in terms of action taken, (8). The Records Standards Programme refers to developing a program on medical records that will identify the need, review the literature and establish a major stream of work. The aim of the RCP HIU (Royal College of Physicians , Health Informatics Unit's ) , Records Standards programme is to improve the quality of clinical information in the hospital setting by: first, developing standards for recording and communicating information about patients; second, applying these standards to medical records to improve the validity and utility of patient data; and third, structure the records so that the information can be incorporated into electronic records, shared with other healthcare providers and analyzed for performance monitoring with confidence, (9).

The goal of a quality assessment program for healthcare documentation is to ensure that patient care documentation is clear, consistent, accurate, complete, and timely, and that it satisfies stated or implied requirements for documentation of patient care, (10).Medical records serve as documented proof in case any legal issues regarding quality of treatment or negligence arise. These records form reliable and easily accessible data sources for health policy planning, (11).Medical records serve a number of important functions such as : “ as an archive of important patient medical information for use by other health care providers and patients ; a source of data to assess performance in practice such as treatment of specific chronic medical conditions (e.g., diabetes), postoperative care, or preventive services; and the documentation of clinical decisions. One can readily see how these patient care functions of the medical record can be used for educational and evaluative purposes , (12).Understanding the basics of the audit process is crucial to maximizing the utility of medical records as a tool for both formative and summative assessment. Because medical record audits can be time-consuming, one should not perform an audit until clear about the educational and evaluation purpose of the audit. The audit cycle is closely related to the PDSA (plan-do-study act) quality improvement cycle, (13).

Health care records promote patient safety, continuity of care across time and care settings, and support the transfer of information when the care of a patient/client is transferred e.g.at clinical handover, during escalation of care for a deteriorating patient and transfer of a patient / client between settings, (14).The main purpose of a health care record is to provide a means of communication to facilitate the safe care and treatment of a patient / client. A health care record is the primary repository of information including medical and therapeutic treatment and intervention for the health and well-being of the patient / client during an episode of care and informs care in future episodes. The health care record is a documented account of a patient / client's history of illness; health care plan/s; health investigation and evaluation; diagnosis; care; treatment; progress and health outcome for each health service intervention or interaction. The health care record may also be used for communication with external health care providers, and statutory and regulatory bodies, in addition to facilitating patient safety improvements; investigation of complaints; planning; audit activities; research (subject to ethics committee approval, as required); education; financial reimbursement and public health , (15).

Auditing the Medical Record is maintained by proper management of health records and accurate, comprehensive record-keeping. Ensuring quality of patient care documentation can be attained through its completeness in its medical record. This parameter is essential in the continuity of care rendered by different health professionals in the hospital. In return, the medical records can promote safety and effective communication with the health care team. The purpose of this study was to evaluate the completeness of the content of medical record utilizing the Patient Medical Record Content (PMRC) Standards in a selected government hospital in Riyadh. This study is significant in evaluating the completeness of the content set according to the standards of the hospital.

## **II. Objective.**

To evaluate the completeness of the medical record utilizing the PMRC standards in a selected government hospital in Riyadh. Differences in the completeness in the four (4) clinical units were determined.

### III. Method.

Quantitative descriptive design was used in this study. The investigators conducted the study in a selected tertiary government hospital in Riyadh which caters Maternity and Child Care services. The estimated bed capacity of this hospital is 310. This study evaluated the completeness of the content of medical record utilizing the Patient Medical Record Content (PMRC) Standards of the hospital. Administrative permissions were sought from the College of Nursing to the selected hospital as the locale of the study. The units with medical patient records were selected by purposive sampling technique. The instrument used for collection of data was the PMRC of the hospital applied in four (4) clinical units. Preparation of the medical file content, number of clinical units, number of beds in each clinical unit was done taking 1-2 days to collect the data. The audit includes 10% of medical files for every clinical unit. In the four (4) unit selection, these records were included in the month of December, 2014 until January, 2015. Simple random probability sampling utilized for the study. The sample size was 28 in the four (4) clinical units such as pediatric ward, antenatal care ward, gynecology ward, postpartum care ward. Primary data for the audit was collected for the completeness of all medical patient record content. A Checklist was prepared and utilized coding system such as "yes" for compliance and "no" for non-compliance to evaluate completeness using the PMRC standards of the hospital. Data were analyzed using descriptive statistics of the SPSS version 16.

### IV. Results and Discussion

Table 1 shows the distribution of medical record audited by the investigators in relation to bed capacity.

**Table 1. Distribution of Medical Records Audited according to Bed Capacity**

| Clinical Units                | Total Bed Capacity (TBC) | 10% of TBC |
|-------------------------------|--------------------------|------------|
| Gynecology                    | 25                       | 3          |
| Post-partum                   | 138                      | 14         |
| Antenatal                     | 50                       | 5          |
| Pediatric                     | 62                       | 6          |
| Total Medical Records Audited | 275                      | 28         |

Logan, Gorman, Middleton explored the attributes of quality in recorded clinical encounter data, examines issues in measuring these attributes, and describes a method for measuring two attributes, completeness and correctness (16). In this study, there are four (4) clinical units that have been examined for completeness of all medical records.

Each unit was evaluated using PMRC Standards of the hospital. In the four (4) clinical units, the total number of medical records audited were as follows: Gynecological Unit (n= 3); Post-Partum (n= 14); Pediatric (n= 6); Ante-natal (n= 5). Twenty eight (n= 28) medical records have shown that they have almost all complete content except from items like: Protocol Order, Braden Scale, Patients' Bill of Rights Forms. In items that were incomplete, the following forms were noted: Echo Reports, Radiology, Social Worker, Fall Assessment and Re-assessment, Nursing Care Plan, ER Assessment Sheet, Medication Record, Therapeutic Nutrition forms, Nurses' Progress Notes, History and Physical Examination, Nursing Admission Assessment, ER Nursing Assessment Sheet, Pain Management, Patient Family Health Education. According to Reiser, health records document the pertinent facts of a patient's life and health history, including past and present illness(es) and treatment(s), written down by the health professionals handling the patient's care. (Table 1).

The records must be compiled in a timely manner and contain sufficient data to identify the patient, support the diagnosis or reasons for the healthcare encounter, justify the treatment, and accurately document the results, (17). Good quality healthcare data play a vital role in the planning, development, and maintenance of healthcare services. Quality health records are essential for the maintenance of optimal healthcare, (20).

**Table 2. Summary Distribution of Completeness of Medical Records According to PMRC Standards in the Four (4) Clinical Units**

| Content           | Gyne |            | PP  |            | Ante |            | Pedia |           | Total      |
|-------------------|------|------------|-----|------------|------|------------|-------|-----------|------------|
|                   | F    | %          | f   | %          | F    | %          | F     | %         |            |
| Admission         | 15   | 83.3%      | 71  | 84.5%      | 23   | 76.6%      | 27    | 75%       | 79.85% (1) |
| Graphic           | 6    | 25%        | 65  | 58%        | 13   | 32.5%      | 14    | 29.1%     | 36.15% (5) |
| Medication        | 5    | 27.7%      | 31  | 36.9%      | 10   | 33.3%      | 7     | 19.4%     | 29.33% (6) |
| Physician's Notes | 17   | 62.9%      | 92  | 73.0%      | 20   | 44.4%      | 32    | 59%       | 59.83% (2) |
| Nurses' Notes     | 17   | 56.6%      | 79  | 56.4%      | 28   | 56%        | 28    | 46.6%     | 53.9% (3)  |
| Operating Room    | 0    | 0          | 20  | 35.7%      | 6    | 3%         | 0     | 0         | 9.68% (8)  |
| Diagnostic        | 4    | 19.0%      | 49  | 5%         | 14   | 4%         | 8     | 19%       | 11.75%(7)  |
| Miscellaneous     | 11   | 45.8%      | 60  | 53.5%      | 23   | 57%        | 18    | 37.5%     | 48.45% (4) |
| Total             | 75   | 40.04% (2) | 467 | 50.38% (1) | 137  | 38.35% (3) | 134   | 35.7% (4) | 41.12%     |

According to the PMRC Standards, in terms of completeness, Admission Sheets are ranked number 1 ( 79.85%). Second to Admission Sheets, are the Physician's Notes (59.83% ), third are the Nurses' Notes ( 53.9% ); fourth are the Miscellaneous forms ( 48.45% ); fifth are the Graphic forms ( 36.15% ); sixth are the Medication sheets ( 29.33% ); seventh are the Diagnostic Sheets ( 11.75% ); and the least ( eight in rank ) are the Operating Room sheets ( 9.68 % ). Almost all complete in the Gynecological, Post partum , Antenatal and Pediatric Units are the Admission Sheets ( 83.3%, 84.5%, 76.6%, and 75.0% respectively ), and the least are the Diagnostic Forms ( 19.0% 5.0%, 4.0% and 19.0% , respectively). The most complete unit is the Post partum( 50.38% ) , followed by Gynecological ( 40.04% ), Antenatal ( 38.35% ) and Pediatric ( 35.7% ).(Table 2).

Supporting the results of the study is coming from where patient health record review has improved the chart documentation of care by medical house officers and has impacted on the quality of health record documentation, ( 21 ), where Admission Sheets are all almost complete because of screening in this hospital in terms of their admission. Physicians in the study of Tang, who used a computer-based patient record (CPR) produced more complete documentation and documented more appropriate clinical decisions, as judged by an expert review panel. Because the physicians who used the CPR in this study volunteered to do so, further study is warranted to test whether the same conclusions would apply to all CPR users and whether the improvement in documentation leads to better clinical outcomes.(25). Similar findings were seen in the abstracted records coming from the departments of obstetrics and gynecology (336, 45.90%), pediatrics (178, 24.32%), accident and emergency (14.0%, 19.13%), medicine (38, 5.19%), surgery (30, 4.09%), and psychiatry (10, 1.37%). These percentages reflected the following hospital discharge patterns given in the hospital statistics for 2008, ( 26). A periodic hospital-wide comprehensive review of patients' health records supports the clinical documentation improvement program,(27 ).

In this study, from the four (4) clinical units, it shows that the most complete is the Post-partum unit and the least is the Pediatric unit. It is often said that an adequate health record indicates adequate care, and conversely, a poor health record indicates poor care. Indeed, a patient who received poor care can have a complete and thorough record, but the reverse is more likely to be true, that is, a patient may have received adequate care which is poorly documented.Huffmann, stressed that health records document the pertinent facts of a patient's life and health history, including past and present illness(es) and treatment(s), written down by the health professionals handling the patient's care. The records must be compiled in a timely manner and contain sufficient data to identify the patient, support the diagnosis or reasons for the healthcare encounter, justify the treatment, and accurately document the results, (17).

The medical record has been used for more than a century as a tool to assist clinicians in the care of patients. Today, the medical record has a comprehensive purpose: "to recall observations, to inform others, to instruct students, to gain knowledge, to monitor performance, and to justify interventions, (18 ).The quality of health records depends on the health information recorded by the healthcare professionals authorized to provide and document such care. The term 'data quality' refers to the characteristics and attributes of the data, specifically: accuracy, accessibility, comprehensiveness, consistency, currency, definition, granularity, (detail contained), precision, relevancy, and timeliness. Problems with data quality make the health record linkage process cumbersome, unreliable, and of little value to organizations, providers, and patients,(19), but this study reflected only its completeness as the major criterion in the audit, as shown in Table 1, and found to be a limitation.

Most importantly, senior members of health information departments must ensure adequate documentation collection, analysis, and assessment in order to guarantee the completeness, availability, and

accessibility of health records, (20). Improving the quality of healthcare data in patient health records can affect clinical and administrative decision making in many ways, (22) and impact on health economics, increase patient safety, provide evidence to support clinical decision making through healthcare research, and improve the information provided to patients on their illness and care, and the effectiveness of clinical care pathways, (23).

Similar to the findings of this study, is the subsequent documented limitations of the current record-keeping system. Several investigators have quantified the problem of data missing from the record itself, (24). To investigate whether using a computer-based patient record (CPR) affects the completeness of documentation and appropriateness of documented clinical decisions. Completeness of problem and medication lists in progress notes, allergies noted in the entire record, consideration of relevant patient factors in the progress note's diagnostic and treatment plans, and appropriateness of documented clinical decisions were seen in the study of Tang, (25). In the study of So, where the poorly and well-documented charts were compared by patient, physician, and hospital variables, as well as on agreement between the administrative and re-abstracted data. Of the 2,061 charts reviewed, 42.6 per cent were rated well documented. The proportion of charts well documented varied from 14.6 to 87.5 per cent across 17 hospitals, but did not vary significantly by patient characteristics. The kappa statistic was generally higher for well-documented charts than for poorly documented charts, but varied across comorbidities. In conclusion, poorly documented hospital charts tend to be translated into invalid administrative data, which reduces the communication of clinical information among healthcare providers, (28). Also, hospital discharge summaries serve as the primary documents communicating a patient's care plan to the post-hospital care team. (30, cited in 29). On the one hand, a recent systematic review noted that studies that have examined recommended discharge summary components more specific than those mandated by the Joint Commission have found relatively high rates of omission, (30, 31, 32 cited in 29). The discharge summaries analyzed were seen to be inadequate especially in documenting course during the hospital stay, condition at discharge, appropriate instructions and the treating physician's details. These can probably be addressed by introducing electronic medical records if feasible. Otherwise, the discharge summary should be standardized and doctors should be trained to write legible, complete discharge summaries, (39).

The Joint Commission mandates that six components be present in all U.S. hospital discharge summaries. Despite the critical importance of discharge summaries in care transitions and patient safety, no studies have examined how well discharge summaries adhere to Joint Commission standards. In the study of Kind, Joint Commission-mandated discharge summary components were specifically defined and abstracted from discharge summaries for all hip fracture, stroke, and cancer patients discharged directly to subacute care facilities from a large Midwestern academic hospital between 2003 and 2005 (N = 599), preliminary results show that most (88–100 percent) discharge summaries included five of the six Joint Commission components. The remaining component, "patient's discharge condition," was included the least often (79–90 percent). The discharge summaries adhere well to Joint Commission discharge summary component standards. However, given the discharge summary's pivotal communication role in care transitions, even a small frequency of omitted patient discharge condition information is a concern and may affect patient safety, (29).

The high rate of adherence to completeness in this study is better as shown in a high percentage of consistency from the four (4) clinical units. In the study of Kripalani, standards for discharge summaries within this study sample is likely due to two major factors. First, the Joint Commission-mandated components are extremely broad/general. With minimal documentation, it is simple for a practitioner to meet the Joint Commission component standards. A recent systematic review noted that studies that have examined recommended discharge summary components more specific than those mandated by the Joint Commission have found relatively high rates of omission, (30). While in the study of Diver and Craig, they worked in a busy regional fracture unit, where it was noted that important data was being omitted from medical notes. In an attempt to improve on this, an admission proforma was formulated. This was designed to be easily and quickly completed. Notes were audited on two separate weeks, the first before, and the second after introduction of the proforma. The overall results demonstrate statistically significant improvements in documentation with a proforma, and concur with the limited previous literature in this area, (33).

Medical records serve many functions but their primary purpose is to support patient care. The RCP Health Informatics Unit (HIU) has found variability in the quality of records and discharge summaries in England and Wales. There is currently a major drive to computerise medical records across the NHS, but without improvement in the quality of paper records the full benefits of computerisation are unlikely to be realised. The onus for improving records lies with individual health professionals. Mann and Williams stressed that structuring the record can bring direct benefits to patients by improving patient outcomes and doctors' performance. The Health Informatics Unit (HIU) has reviewed the literature and is developing evidence-based standards for record keeping including the structure of the record. The first draft of these standards has been released for consultation purposes. This article is the first of a series that will describe the standards, and the evidence behind them. (34)

Batham stressed the importance of medical of medical care that is provided by dedicated but often inexperienced young doctors, nurses and medics. This audit looks at the quality of medical records that are available to these deployed clinicians and the quality of their record keeping against nationally set guidance for the Summary Care Record (SCR) and Out of Hours record keeping, (35). A high standard of medical record keeping is important for safe patient care and provides information for research, audit and medicolegal purposes. Standards exist on what entries should contain, but as far as we are aware these standards are not regularly used in South Africa. We compared surgical case notes at Prince Mishyeni Hospital with guidelines from the Royal College of Surgeons of England, (36). Similar to the results of the study, the charts in the four clinical units serve a lot of purposes especially if undergoing audit. Chart audits can serve many purposes, from compliance to research to administrative to clinical. Virtually in any aspect of care that is ordinarily documented in the medical record, chart audit can be done. Practices frustrated with clinical processes that don't work well can use chart audits to document that something is wrong, find the defect in the process and fix it. Chart audits are often used as part of a quality improvement initiative, (37). Healthcare professionals need to be aware of, and comply with, standards. House officers should be given information about standards at departmental induction or during medical training, (38).

## **V. Limitations of the Study**

Limitations of the study have been seen as for variables such as In-Patient Medical Records; the time to collect the data, the general content to the entire department without elaboration of details, removal of chart content related to the clinical unit such as special papers concerning women, pregnancy and papers pertaining to children, and attachments of the format content in the chart files.

## **VI. Conclusion:**

On the basis of the findings of the study, there were missing or incomplete important forms/ sheets in the medical record. Prioritizing medical records in terms of its completeness and maintaining compliance to standards can help a hospital promote safety and better collaboration. Proper communication in the use of data in the medical record will lead to quality and effective nursing and medical care. In future studies, it is recommended that other criteria not only completeness can be used in evaluating medical records.

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