



## MEDICAL AUDIT OF INPATIENT MEDICAL RECORDS IN A TERTIARY CARE HOSPITAL

### Hospital Administration

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### ABSTRACT

**INTRODUCTION:** Medical record enable healthcare professionals to plan, evaluate a patient's treatment and ensures continuity of care. In a health care setting it is very crucial to maintain proper medical records as these documents are prerequisite for planning patient care and have legal ramifications. Therefore, medical audit plays an important role in continuous quality improvement.

**AIM & OBJECTIVE:** To carry out the Medical Audit of Inpatient Medical Records in a Tertiary Care Hospital and to identify the deficiencies and to propose recommendations.

**MATERIAL & METHODS:** It was a retrospective and descriptive study. The quality assessment was performed using a 54 Parameters tool divided into 9 domains of Protocols & Policies. The sample size of 220 case sheets from all departments was taken.

**RESULTS:** In our study the time in initial notes was missing in (79%) and time in daily notes was missing in (83%). The diet recommended was not mentioned in (75%). In daily notes, specialist notes were missing in (59%). In the daily clinical progress charts, patient particulars were incomplete/ missing in (72%) while weight of the patient was not endorsed in (99%). In discharge slip, the International Classification of Diseases (ICD) is missing in (44%).

**Recommendations:** A standard discharge document check list performa has been designed and to be attached with all case sheets of the hospital.

**CONCLUSION:** Medical records are technically valid health records which provide documentary basis for planning patient care and treatment by the physician and are vital for legal purposes.

### KEYWORDS

Checklist, Medical Audit, Medical Record, International Classification of Diseases (ICD)

### INTRODUCTION

Medical record enable healthcare professionals to plan, evaluate a patient's treatment and ensures continuity of care. In addition, accurate and legible medical record directly affects the quality of patient care provided(1).

Audits are a quality improvement measure and allows organizations to continually work toward improving quality of care by knowing short falls, by implementing improvements, and by reauditing/ closing the audit cycle to visualize the benefits achieved(2).

Medical audit is a type of audit in which current practices are compared with the standards/ best practises in health care. It has an important role to play in education and management activities such as cost effectiveness, quality control, risk and resources management(3).

In a health care setting it is very crucial to maintain proper medical records as these documents are prerequisite for planning patient care and have legal ramifications. Therefore, medical audit plays an important role in continuous quality improvement.

### AIM & OBJECTIVE

To carry out the Medical Audit of Inpatient Medical Records in a Tertiary Care Hospital.

- To assess the completeness, appropriateness & standardized adoption of protocols & policies.
- To identify the deficiencies and to propose recommendations.

### MATERIAL & METHODS

The audit was carried out in a tertiary care hospital. The trained evaluation team carried out a retrospective and descriptive study of quality of medical records using a random sampling strategy. The quality assessment was performed using a 54 Parameters tool divided into 9 domains of Protocols & Policies like Admission Slip, Medical History and Physical Examination, Discharge Summary, Investigation Forms, Daily Clinical Progress Charts, Intake/ Output Charts, Informed Consent, Discharge Slip. Tool was validated by the domain experts and found statistically significant.

Simple random sample of all Inpatient Medical Records of discharged patients of last one month was taken. The total number of admission in last one month was 2320 and total number of discharges was 2179. The sample size of 220 case sheets from all departments was taken (Based on a pilot study the sample size was statistically calculated).

The data was collected in a Microsoft office excel 2010 database wherein total score and percentage score were calculated. The data collected were primary and the source was discharge case sheets of the last one month available in the Inpatient Medical Records Department of the hospital. The approach used for data collection was quantitative. A structured check list was developed (Table 1) keeping quality indicators as benchmark.

**Table 1: Checklist for Medical Audit of Inpatient Medical Records.**

Ser No	Protocols & Policies	Parameters of Protocols & Policies
1	Admission Slip	Personal Particulars missing/ incomplete
2		Time of arrival mismatch with initial notes
3		Unauthorised abbreviations
4		Spelling mistakes
5		Provisional diagnosis is missing
6		Sign and stamp of admitting Doctor is missing
7	Medical History and Physical Examination	Patient particulars on initial note is incomplete/ missing
8		Date missing on initial note
9		Time missing on initial note
10		Initial notes sketchy
11		Initial notes missing
12		Clinical details and treatment instructions in initial notes is missing
13		Sign and stamp of Doctor/ Resident on initial note is missing
14		Patient particulars on daily note is incomplete/ missing
15		Date missing on daily notes
16		Time missing on daily notes
17		Daily notes sketchy
18		Daily notes missing
19		Illegible handwriting on notes
20		Investigation result not endorsed/ incompletely endorsed in case sheet
21		Procedure notes not written adequately
22		Diet not mentioned in case sheet
23		Dose and route of administration of the drug prescribed not endorsed

Ser No	Protocols & Policies	Parameters of Protocols & Policies
24		Provisional/ Differential diagnosis not written
25		Sign and stamp of Doctor/ Resident on daily note is missing
26		Daily notes sketchy/ missing of Specialist
27		Sign and stamp of Specialist on daily note is missing
28		Interspeciality note not endorsed
29	<b>Discharge Summary</b>	Discharge summary not comprehensive
30		Discharge summary not countersigned by Specialist
31		Follow up advise incomplete/ missing in discharge summary
32		Discharge summary not attached
33	<b>Investigation Forms</b>	Personal Particular incomplete/ missing
34		Clinical note missing/ incomplete on routine investigation
35		Clinical note missing/ incomplete on special investigation
36		Duplication of investigation by various dept
37		Sign and stamp of Specialist on investigation is missing
38	<b>Daily Clinical Progress Charts</b>	Personal Particular incomplete/ missing
39		Weight not endorsed
40		Clinical chart not signed and stamped by Doctor
41		Clinical chart not attached
42	<b>Intake/ Output Charts</b>	Personal Particular incomplete/ missing
43		Diagnosis of patient missing
44		Diet not mentioned
45		Total intake/ output not endorsed
46		Intake/ Output chart not attached
47	<b>Informed Consent</b>	Name of witness and date not mentioned
48		Signature of Specialist not endorsed
49		Consent form not attached
50	<b>Discharge Slip</b>	Spelling mistakes in diagnosis
51		Discharge summary not comprehensive
52		Discharge summary not countersigned by Specialist
53		ICD Code missing in discharge summary
54		Follow up advise incomplete/ missing in discharge summary

**Observations**

In our study, personal particulars of the patients were incomplete/ missing in initial notes by the attending doctor in (9%). The time in initial notes was missing in (79%) and time in daily notes was missing in (83%). The diet recommended was not mentioned in (75%). In daily notes, specialist notes were missing in (59%). In the daily clinical progress charts, patient particulars were incomplete/ missing in (72%) while weight of the patient was not endorsed in (99%).

The Intake/ Output Charts were not attached in (71%) of cases. The diagnosis and diet were missing in 77% of the Intake/ Output Charts. In discharge slip, the ICD Code was missing in (44%). The complete results of the Medical Audit of Inpatient Medical Records are shown in Table 2.

**Table 2: Results of Medical Audit of Inpatient Medical Records.**

Ser No	Protocols & Policies	Parameters of Protocols & Policies	Yes	No	Total	Percentage of Yes
1	<b>Admission Slip</b>	Personal Particulars missing/ incomplete	1	219	220	0.45
2		Time of arrival mismatch with initial notes	1	219	220	0.45
3		Unauthorised abbreviations	2	218	220	0.91
4		Spelling mistakes	5	215	220	2.27
5		Provisional diagnosis is missing	1	219	220	0.45

Ser No	Protocols & Policies	Parameters of Protocols & Policies	Yes	No	Total	Percentage of Yes
6		Sign and stamp of admitting Doctor is missing	2	218	220	0.91
7	<b>Medical History and Physical Examination</b>	Patient particulars on initial note is incomplete/ missing	19	201	220	8.64
8		Date missing on initial note	16	204	220	7.27
9		Time missing on initial note	173	47	220	78.64
10		Initial notes sketchy	39	181	220	17.73
11		Initial notes missing	10	210	220	4.55
12		Clinical details and treatment instructions in initial notes is missing	26	194	220	11.82
13		Sign and stamp of Doctor/ Resident on initial note is missing	23	197	220	10.45
14		Patient particulars on daily note is incomplete/ missing	38	182	220	17.27
15		Date missing on daily notes	27	193	220	12.27
16		Time missing on daily notes	182	38	220	82.73
17		Daily notes sketchy	21	199	220	9.55
18		Daily notes missing	27	193	220	12.27
19		Illegible handwriting on notes	13	207	220	5.91
20		Investigation result not endorsed/ incompletely endorsed in case sheet	90	130	220	40.91
21		Procedure notes not written adequately	8	212	220	3.64
22		Diet not mentioned in case sheet	165	55	220	75.00
23		Dose and route of administration of the drug prescribed not endorsed	18	202	220	8.18
24		Provisional/ Differential diagnosis not written	19	201	220	8.64
25		Sign and stamp of Doctor/ Resident on daily note is missing	30	190	220	13.64
26		Daily notes sketchy/ missing of Specialist	129	91	220	58.64
27		Sign and stamp of Specialist on daily note is missing	124	96	220	56.36
28		Interspeciality note not endorsed	0	220	220	0.00
29	<b>Discharge Summary</b>	Discharge summary not comprehensive	3	217	220	1.36
30		Discharge summary not countersigned by Specialist	6	214	220	2.73
31		Follow up advise incomplete/ missing in discharge summary	0	220	220	0.00
32		Discharge summary not attached	0	220	220	0.00
33	<b>Investigation Forms</b>	Personal Particular incomplete/ missing	5	215	220	2.27
34		Clinical note missing/ incomplete on routine investigation	13	207	220	5.91
35		Clinical note missing/ incomplete on special investigation	3	217	220	1.36
36		Duplication of investigation by various dept	0	220	220	0.00
37		Sign and stamp of Specialist on investigation is missing	8	212	220	3.64
38	<b>Daily Clinical Progress Charts</b>	Personal Particular incomplete/ missing	158	62	220	71.82

Ser No	Protocols & Policies	Parameters of Protocols & Policies	Yes	No	Total	Percentage of Yes
39		Weight not endorsed	217	3	220	98.64
40		Clinical chart not signed and stamped by Doctor	195	25	220	88.64
41		Clinical chart not attached	158	62	220	71.82
42	<b>Intake/ Output Charts</b>	Personal Particular incomplete/ missing	156	64	220	70.91
43		Diagnosis of patient missing	156	64	220	70.91
44		Diet not mentioned	170	50	220	77.27
45		Total intake/ output not endorsed	158	62	220	71.82
46		Intake/ Output chart not attached	156	64	220	70.91
47	<b>Informed Consent</b>	Name of witness and date not mentioned	65	155	220	29.55
48		Signature of Specialist not endorsed	64	156	220	29.09
49		Consent form not attached	34	186	220	15.45
50	<b>Discharge Slip</b>	Spelling mistakes in diagnosis	0	220	220	0.00
51		Discharge summary not comprehensive	0	220	220	0.00
52		Discharge summary not countersigned by Specialist	0	220	220	0.00
53		ICD Code missing in discharge summary	97	123	220	44.09
54		Follow up advise incomplete/ missing in discharge summary	0	220	220	0.00

## DISCUSSION

A system of adequate and meticulously kept medical records is indispensable in today's health care setup and a mechanism to be put in place to conduct regular audits, possibly incorporating incentives for those who are consistent in conducting audits(4). Clinical audit in simple words means that doing the right thing in the right way. Audits improve patient care, identify and promote good practice, lead to improvement in service delivery, demonstrate that service is effective, provide opportunities for education and training and encourages teamwork(5).

The study findings are consistent with those described in previous studies. In our study the specialist stamp and signature in Medical history and Physical examination was missing in (56%), name of witness & date and/or signing of informed consent was missing in (29%), daily clinical progress charts were missing in (71%) in comparison to a study conducted at Cancer Institute in Italy wherein the physician's stamp and signature in medical history and/or physical examination was missing in (80%); completeness and/or signing of informed consent was missing in (50%); completeness of clinical diary for each day of hospitalization was deficient in (50%)(3).

Singh et al in 2017 reported that ICD number was not found in gynecology (40%) and skin (20%) patients' discharge(1). This remains a problem still in the present study, where it was missing in (44%) of discharge slip.

Therefore clinical audit can be of valuable tool aimed at improving the quality of healthcare and its delivery.

## Recommendations

- A standard discharge document check list performa has been designed and to be attached with all case sheets while depositing the case sheets in Medical Record Department (MRD) of the hospital (Annexure 1).
- Sensitising the clinical and clerical staff regarding the importance of correct record keeping in the hospital setting.
- Hospital wide standardisation of medical record keeping should be emphasised.
- A quarterly medical audit of the medical records should be carried out.
- A reward should be instituted to the best performing department for motivation and for improving the record keeping.
- Regular on the Job Training of the hospital staff should be conducted to adequately fill the records in a scientific manner.

## CONCLUSION

Quality control, and consequently the right allocation of resources, is becoming a leading issue in management and delivery of healthcare services. Various tools are deployed to provide monitoring of the levels of care and improve its quality. Medical audit is one of the most popular and commonly used quality assessment tool.

Medical records are technically valid health records which provide documentary basis for planning patient care and treatment by the physician and are vital for legal purposes. Therefore, it is need of the hour to give due diligence and importance to proper medical record keeping in the hospital which can be continuously improved by carrying out medical audit at regular interval.

**Source of Support:** NIL

**Conflict of Interest:** The authors declare that they have no conflict of interest.

## Annexure 1

### Discharge Document Check List

<b>Patient Name:</b>	<b>Sex:</b>	<b>Age:</b>
<b>Mobile No:</b>	<b>Date of Admission:</b>	<b>Date of Discharge:</b>
<b>A&amp;D No:</b>	<b>Diagnosis:</b>	<b>Name of the Ward:</b>

Ser No	Parameters to be Checked in Case Sheet	Remarks (Yes/No)
1.	Discharge Slip	Discharge summary, follow up advice, and ICD Code to be endorsed and countersigned by Specialist
2.	Discharge Summary	Discharge summary and follow up to be endorsed and countersigned by Specialist
3.	Admission Slip	Patient particulars and Provisional Diagnosis to be filled along with stamp and signature of Admitting Doctor
4.	Medical History and Physical Examination	Initial Note - Patient particulars, Date & Time of examination, Clinical notes with treatment to be endorsed along with stamp & signature of Doctor
		Daily Note - Same as Initial Note In addition - Investigation report, diet, Interspeciality note to be endorsed along with stamp & signature of Doctor and countersigned by Specialist
5.	Informed Consent	Name of procedure, Stamp & signature of Specialist, Name & signature of patient and witnesses with date
Ser No	Parameters to be Checked in Case Sheet	Remarks (Yes/No)
6.	Investigation Forms	Patient particulars, Diagnosis, Stamp & signature of Doctor/ Specialist on all routine and special investigation forms
7.	Daily Clinical Progress Charts	Patient particulars, Clinical parameters incl wt to be endorsed and stamped & signed by Doctor
8.	Intake/ Output Charts	Patient particulars, Diagnosis, Diet and Total Intake/ Output to be endorsed
<b>Sign of Nurse:</b>		<b>Sign of Doctor:</b>
<b>Sign of MRD Tech:</b>		<b>Sign of Oic MRD:</b>

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