

**PERFORMANCE IMPROVEMENT INDICATORS OF MEDICAL RECORD
DEPARTMENT IN AMERICAN ONCOLOGY INSTITUTE HOSPITAL**

Dissertation Submitted to



The IIHMR University, Jaipur

for the partial fulfillment for the award of the degree of

Master of Business Administration (MBA)

in

Hospital and Health Management

by

Bhandarkar Divya Parag

Under the Supervision and Guidance of

Dr. Sanjay Gupta

2025

KIMS-UAIMS/HRD/ 8226 / 2025

Date : 09/06/2025

To whomsoever it may concern

Internship certificate

This is to certify that, Ms Divya Parag Bhandarkar has successfully completed internship in our organization from 08th May 2025 to 08th June 2025 in operation department.

During the tenure she has undergone training in operation department as an intern. We found her sincere and hardworking. We wish her success in her future endeavor.

For Ushahkal Abhinav Speciality Hospital LLP


Mr Achyut Pujari

Senior Manager- HR



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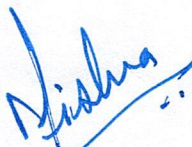
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Appendix E: Completion Certification

CERTIFICATE

This is to certify that Divya Parag Bhandarkar in partial fulfillment of the requirements for the award of the degree of MBA (Hospital and Health Management) from the IIHMR University, Jaipur has successfully completed her internship at American Oncology Institute Nagpur during Mar 18 - May 6, 2025.

Place : Nagpur


Preceptor/Head of the Organization
Date : 06/05/2025

Nisha Mishra. zonal HR



American Oncology Institute Nagpur



NANGIA
SPECIALTY
HOSPITAL

Date: 06th May 2025

Internship Certificate

This is to Certify that **Ms Divya Parag Bhandarkar** has successfully completed Internship in our Organization from **18th Mar 2025 to 06th May 2025** in Operation Department.

During her tenure she has undergone training in the Operation Department as an Intern.

We found her sincere and hardworking. We wish her success in her future endeavour.

For American Oncology Institute, Nagpur
(A Unit of Cancer Treatment Services Hyderabad Pvt. Ltd.)

Human Resource Department
American Oncology Institute, Nagpur Unit



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Appendix E: Completion Certificate

CERTIFICATE

This is to certify that **Divya Parag Bhandarkar** in partial fulfillment of the requirements for the award of the degree of MBA (Hospital and Health Management) from the IIHMR University, Jaipur has successfully completed her internship at **KIMS UAIMS Hospital Sangli** during **8 May – 8 June 2025**.

Place: Sangli



[Signature]
Preceptor/Head of the Organization

Date: 09/06/2025

KIMS UAIMS HOSPITAL SANGLI

Certificate from Faculty Guide and School Dean

CERTIFICATE

This is to certify that dissertation title **Performance Improvement Indicators of Medical Record Department in American Oncology Institute Hospital** is a record of the research work undertaken by **Divya Bhandarkar** in partial fulfilment of the requirements for the award of the degree of MBA Hospital and Health Management from the IIHMR University, Jaipur under my guidance and supervision and her approach to the research study has been sincere, scientific, and analytical.

A handwritten signature in blue ink, appearing to be 'S. Gupta'.

Dr. Sanjay Gupta

Faculty Guide

IIHMR University, Jaipur

Date: 09-06-2025

A handwritten signature in blue ink, appearing to be 'S. Gupta'.

Dr. Sanjay Gupta

School Dean

IIHMR University, Jaipur

Date: 09-06-2025

DECLARATION BY STUDENT

I hereby declare that this dissertation titled **Performance Improvement Indicators of Medical Record Department in American Oncology Institute Hospital** is the Bonafide record of my original research work. I declare that it has not been submitted to any other university or institution for unpublished work of others has been duly acknowledgement in the text.

Divya Bhandekar

Signature

Name of Student Divya Bhandekar

Date 19/6/25

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ABSTRACT

This dissertation focuses on evaluating the performance of the Medical Records Department (MRD) at the American Oncology Institute (AOI), Nagpur, with the aim of identifying areas for operational improvement. The study emphasizes the importance of efficient medical record management in ensuring quality care, regulatory compliance, and streamlined hospital operations.

A two-month observational study was conducted using a convenience sampling method. Data was gathered through direct observation of departmental workflows and a comprehensive review of inpatient medical records. The research aimed to assess the effectiveness of existing processes, highlight documentation and coding gaps, and recommend strategic enhancements to improve departmental efficiency.

Based on the observations and analysis, several recommendations were proposed to strengthen MRD operations, including the adoption of digital tools, structured staff training, and the implementation of standardized protocols. The study highlights the need for continuous monitoring, technological integration, and collaborative practices to ensure high-quality, accurate, and timely medical record management in a specialized oncology setting.

ACKNOWLEDGEMENT

I would take the opportunity to acknowledge the people without whom this project wouldn't have seen the light of the day. In our efforts towards the realization of the project work, I have drawn on the guidance of many people who facilitated in shaping and remodeling the project.

I got this opportunity to pursue my dissertation from American Oncology Institute Hospital, Nagpur and would like to thank Dr. Pankaj Pathak Operation head of American Oncology Institute Nagpur for providing me with this opportunity to learn and complete this dissertation study.

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I embrace upon this as an opportunity for my following career and will attempt to use my skills and knowledge in the best possible way.

Sincerely,

Divya Bhandarkar

INTRODUCTION

Hospitals throughout the world are reporting and tracking indicator data more often in an effort to raise the standard of treatment. Operation indicators can be used as a tool to direct the process of improving the quality of healthcare by identifying suboptimal care in terms of structure, procedure, or outcome. Hospital treatment is more transparent for doctors, hospitals, and patients when the quality of care is monitored. Additionally, it offers data to help focus quality improvement efforts. The use of this data should be maximized, nevertheless, as gathering indicator data also entails an administrative cost for hospitals and doctors. The best way to deploy quality indicators and the outcomes that can be obtained when quality improvement is directed by indicator data are not well understood.

Implementing quality indicators to support quality improvement relies on clear communication strategies and addressing barriers. Research shows that audit and feedback using indicator data can effectively influence healthcare professionals' practices. Additionally, tracking indicator data can guide targeted quality improvement efforts, such as educational initiatives and protocol development. The impact of monitoring indicator data on enhancing quality improvement and patient care has been shown in specific contexts.

As hospitals handle the critical responsibility of human lives, the quality of healthcare services is a primary concern for the entire healthcare system. The focus on quality has grown due to significant changes in healthcare systems in recent years. Quality management in healthcare aims to enhance treatment effectiveness and boost patient satisfaction. With a growing population and rising healthcare costs, the emphasis on quality is increasing. A healthcare system includes various entities, from pharmacies to medical clinics and hospitals, all of which must deliver high-quality services to ensure the system functions effectively.

Review of Literature

A study conducted in a corporate hospital in Hyderabad assessed the MRD's performance by reviewing 150 inpatient medical records. The department demonstrated 100% compliance in areas such as risk management and infrastructure. However, documentation errors, particularly in the 'Diabetics Booklet,' were noted, primarily attributed to nursing staff. The study recommends standardization and regular audits to enhance MRD performance .

https://ijojournals.com/index.php/bm/article/view/975?utm_source

The Balanced Scorecard (BSC) methodology to assess MRD performance in a hospital setting. The BSC approach facilitated a comprehensive evaluation across multiple dimensions, including customer satisfaction, internal processes, and learning and growth. The MRD achieved high scores in customer satisfaction, particularly in the admission and statistics sections, indicating effective service delivery

https://pubmed.ncbi.nlm.nih.gov/24083257/?utm_source

The incorporation of Information Technology (IT) has been identified as a significant factor in improving MRD performance. The use of electronic medical records, coding software, and digital communication tools enhances data accessibility, reduces physical storage needs, and streamlines departmental operations

https://pubmed.ncbi.nlm.nih.gov/26150874/?utm_source

A systematic review highlights the necessity of comprehensive performance measurement systems in healthcare settings.

<https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-025-12412-6>

The adoption of advanced technologies has significantly impacted MRD operations:

Electronic Health Records (EHRs): Facilitate real-time access to patient information, enhancing documentation accuracy.

Natural Language Processing (NLP): Enables automated extraction and analysis of unstructured data from clinical notes.

Artificial Intelligence (AI): Assists in identifying documentation gaps and suggesting improvements

<https://www.simbo.ai/blog/key-performance-indicators-measuring-the-success-of-clinical-documentation-improvement-initiatives-in-hospitals-2724780/>

OBJECTIVE:

1. To assess the key performance indicators of the Medical Records Department.
2. To identify gaps in documentation, coding, and record management.
3. To suggest improvements for enhancing MRD efficiency and quality.

METHODOLOGY:

4.1 STUDY SETTING:

The study was conducted at **American Oncology Institute (AOI), Nagpur**, a leading oncology hospital that offers comprehensive cancer care. The research was focused specifically on the Medical Records Department (MRD), which is responsible for maintaining, organizing, and securing patient health records in both physical and digital formats.

4.2 STUDY DESIGN:

An **observational study design** was adopted. This means the researcher observed existing practices, workflows, and documentation without introducing any changes or conducting interventions. The aim was to assess how the department is currently functioning based on pre-defined Key Performance Indicators (KPIs).

This design is suitable for operational and quality assessments, where the goal is to monitor and analyze current processes rather than test a new treatment or method.

4.3 SAMPLING METHOD:

The study used the **convenience sampling method**, a non-probability sampling technique. In this approach, records were selected based on their availability and accessibility during the study period. This method was chosen due to time constraints and ease of data access within the MRD. Though it may not represent the entire population, it allows for quick insights into performance.

4.4 SAMPLING SIZE :

A total of **200 inpatient medical records** were analyzed. These records were selected from patients who were discharged during the study period. The sample was large enough to provide meaningful results and identify trends in MRD performance.

4.5 STUDY TIME PERIOD:

The study was conducted over a **2-month period**, specifically during **March and April 2025**. This time frame allowed for the collection of sufficient data to evaluate the operational performance of the department across different days and weeks.

4.6 STUDY AREA:

The **Medical Records Department (MRD)** at AOI, Nagpur, was the main area of focus. This department manages a wide range of tasks, including:

- Collection and storage of patient files
- Indexing and scanning
- Coding of diagnoses and procedures
- Filing, retrieval, and confidentiality management

The department plays a key role in ensuring smooth hospital operations, legal documentation, and compliance with accreditation standards like NABH and JCI.

4.7 DATA COLLECTION TECHNIQUE:

Two main methods were used to collect data:

a. Direct Observation

The researcher observed MRD staff as they performed their duties—such as file completion, coding, indexing, and retrieval—without interfering in their workflow. This allowed for real-time assessment of efficiency, delays, and practices.

b. Document Review

Patient records, discharge summaries, coding sheets, and electronic entries were reviewed. This helped in:

- Identifying incomplete or missing documentation
- Verifying the accuracy of coding
- Measuring how quickly records were filed and retrieved

LIST OF QUALITY IDICATORS INCLUDING KPI STUDIED IN MRD OF OPERATION

DEPARTMENT	INDICATOR
Medical Record Department	Medical Record completion Rate
Medical Record Department	Deficiency Rate in Records
Medical Record Department	Coding Accuracy Rate
Medical Record Department	Retrieval Time for Records
Medical Record Department	Record Availability at Point of Care
Medical Record Department	Confidentiality Breach Incidents
Medical Record Department	Average TAT of record completion
Medical Record Department	Number of Physician Queries for Incomplete Documentation
Medical Record Department	Number of Record Rejection in audit
Medical Record Department	Indexing & Scanning Accuracy (Digital MRD)

DATA COLLECTION TECHNIQUES:

To ensure comprehensive data gathering, two methods were employed:

1. Direct Observation

- Time was spent physically in the MRD during working hours.
- Tasks such as record retrieval, indexing and scanning, discharge summary filing, and record completion were observed.
- The researcher noted delays, frequency of physician queries, filing time, and coding processes.
- Attention was given to workflow gaps (e.g., delayed signatures, missing discharge summaries).

2. Document Review

- A detailed audit of 200 patient records was conducted.
- **Each file was reviewed for:**
 - Completion within the expected timeframe
 - Presence of documentation deficiencies
 - Accuracy of ICD codes
 - Timeliness of discharge summary filing
 - Incidences of confidentiality breach
 - Scanning and indexing accuracy

ETHICAL CONSIDERATION

- No patient identity was used or disclosed.
- No direct patient interaction occurred.
- Prior permission was obtained from the hospital's operations team.
- Only MRD staff were engaged for clarifications.

Data Analysis

- All collected data was entered into **MS Excel** for statistical analysis.
- Descriptive statistics such as **percentages, averages, and counts** were used.
- Graphs and tables were used to compare actual performance with benchmark targets.

RESULTS:

10 KPIs of MRD Department are studied in this project

Medical Record Department

The Medical Records Department (MRD) plays a critical role in the effective management of patient care and hospital administration. It serves as the central repository for the collection, maintenance, and protection of patient health information. This department is responsible for the accurate documentation, retrieval, storage, and confidentiality of medical records in accordance with legal, ethical, and institutional requirements.

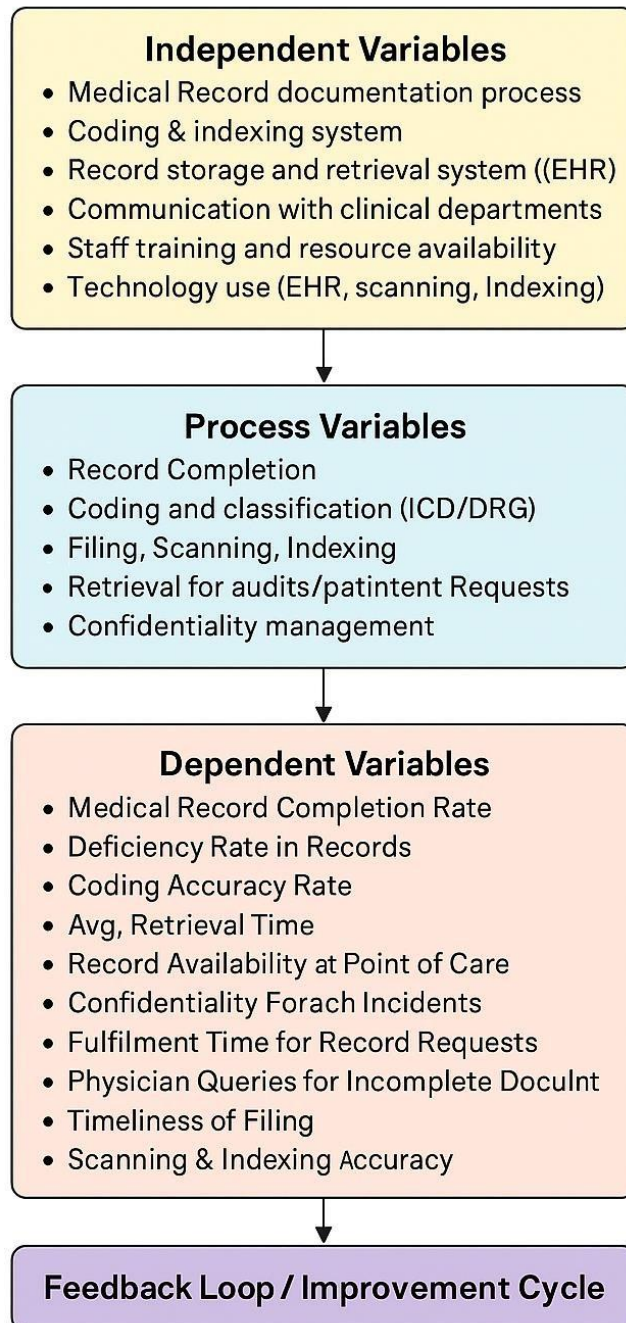
Medical records serve as a foundation for patient care, enabling healthcare professionals to access comprehensive and up-to-date information necessary for diagnosis, treatment, and continuity of care. Moreover, they are essential for hospital management functions such as quality assurance, medico-legal documentation, clinical research, and healthcare planning.

With the advancement of digital technologies and the adoption of Electronic Health Records (EHR), the MRD has evolved from a paper-based archive to a more dynamic and accessible system, enhancing efficiency and data accuracy. However, the core responsibilities—ensuring the integrity, privacy, and availability of patient information—remain unchanged.

In a hospital setting, the MRD also contributes significantly to operational performance by supporting timely discharge processing, medical coding and billing, compliance with healthcare regulations, and reporting for audits and accreditation. Therefore, the MRD is not only a custodian of records but also a key contributor to patient safety, legal compliance, and organizational effectiveness.

Conceptual Framework

Performance Improvement Indicatorss (KPIs) of Medical Record Department in AOI Hospital



DATA COLLECTION & ANALYSIS:

N o.	KPI Name	Formula	Sample Data	Result	Target	Status
1	Medical Record Completion Rate	(Records completed within timeframe days / Total discharges) × 100	(195/ 200) × 100	97.5%	100%	Need improvement
2	Documentation Deficiency Rate	(Deficient records / Sample size) × 100	(6 / 200) × 100	3.0%	≤ 2%	Below Target
3	Coding Accuracy Rate	(Correctly coded / Total coded) × 100	(192 / 200) × 100	96%	≥ 95%	Meets Target
4	Avg. Record Retrieval Time	Total retrieval time / No. of requests	1400 min / 200 = 7 min	7 minute s	≤ 10 min	Meets Target
5	Record Availability at Point of Care	(Available records / Total admission) × 100	(196/20 0) × 100	98.0%	≥ 98%	Meets Target
6	Confidentiality Breach Incidents	Count of breaches	0	0	0	Meets Target
7	Avg. TAT for record completion	Total Days for Completion / Number of Records	960 days / 200 records	4.8 days	≤ 7 days	Meets Target

8	Physician Queries for Incomplete Docs	Count of queries raised to clinicians	15 queries	15	Trend monitor	Needs improvement
9	Number of Record Rejected During Audit	(No. of Rejected Records / Total Records Audited) × 100	(6/200) × 100	3%	Less than 2-5%	Meets Target
10	Scanning/ Indexing Accuracy	(Correctly scanned / Total scanned) × 100	(197 / 200) × 100	98.5%	≥ 98%	Meets Target

KPI ANALYSIS RESULT:

KPI 1) Medical Record Completion Rate:

Percentage of records completed within defined time

Formula: $(\text{Records completed within timeframe} / \text{Total discharged records}) \times 100$

Target :100%

Result :97.5%



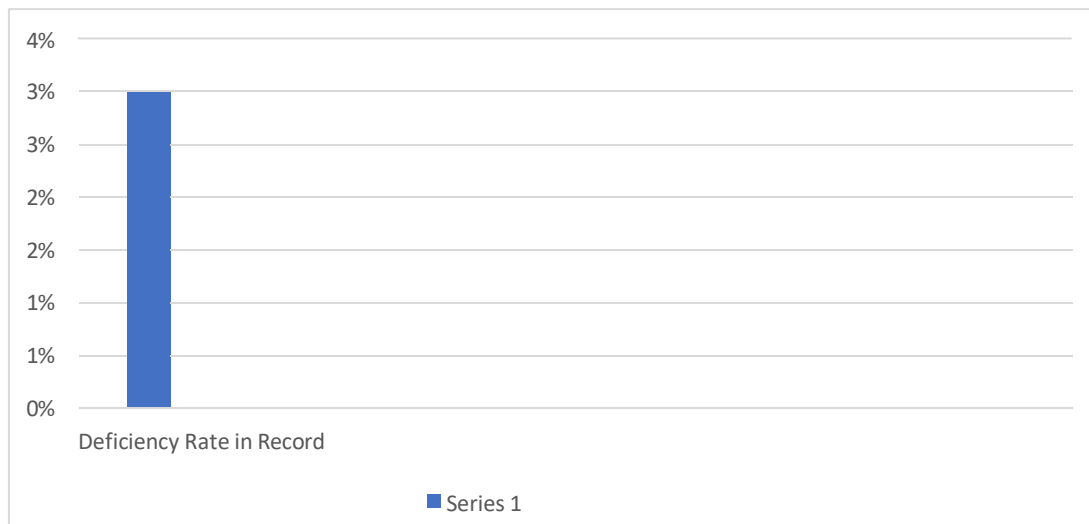
KPI 2) Deficiency Rate in Records:

Measures records with missing or incomplete documentation.

Formula: $(\text{Deficient records} / \text{Total records audited}) \times 100$

Target: 2%

Result:3%



KPI 3) Coding Accuracy Rate:

Ensures that disease and procedure codes (ICD/ICD-10-CM) are correct.

Formula: $(\text{Correctly coded records} / \text{Total coded records}) \times 100$

Target:95%

Result :96%



KPI 4) Average Record Retrieval Time:

Measures efficiency of MRD to retrieve records for care/legal/audit use.

Formula: $\text{Total retrieval time} / \text{Number of requests}$

Target:10 Minute

Result :7 minute

KPI 5) Record Availability at Point of Care:

Ensures records are accessible at time of treatment.

Formula: $(\text{Available records at care point} / \text{Total cases}) \times 100$

Target:98%

Result:98%

**KPI 6) Confidentiality Breach Incidents:**

Number of unauthorized access or loss of patient data.

Formula: Total number of breaches reported

Target:0

Result:0

KPI 7) Average TAT for record Completion:

Average Turn Around Time for record Completion.

Formula: Total Days for Completion / Number of Records

Target: 7 days

Result :4.8 days

KPI 8) Physician Queries for Incomplete Document:

Measures gaps in initial documentation quality.

Formula: Total queries raised to clinicians

Target: Trend Monitor

Result:15 Queries

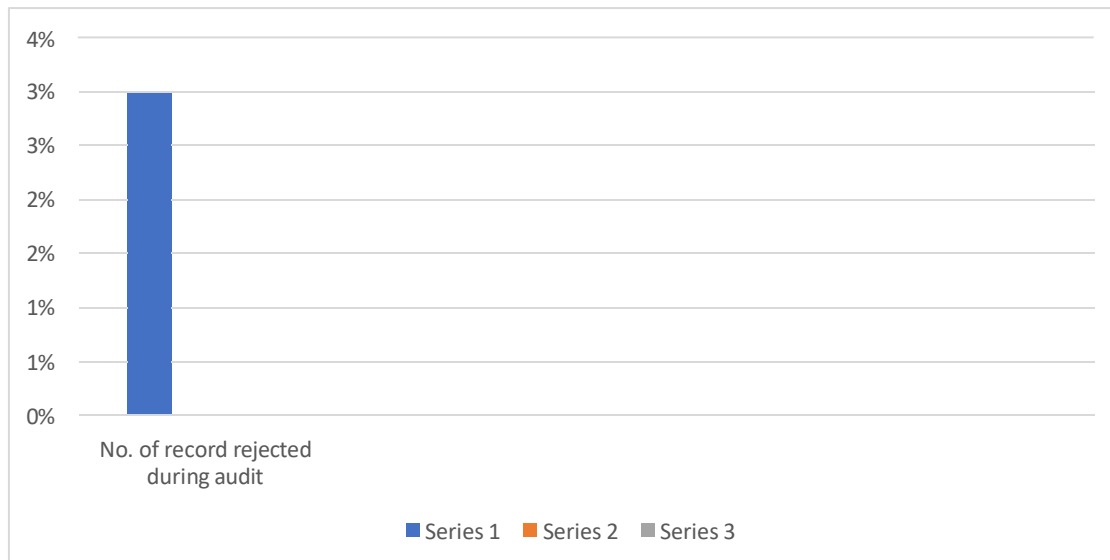
KPI 9) Number of Record Rejected During Audit:

Count of record returned by Quality Team or External Auditor due to incompleteness or errors.

Formula:(No. of Rejected Records / Total Records Audited) × 100

Target:2-5%

Result:3%



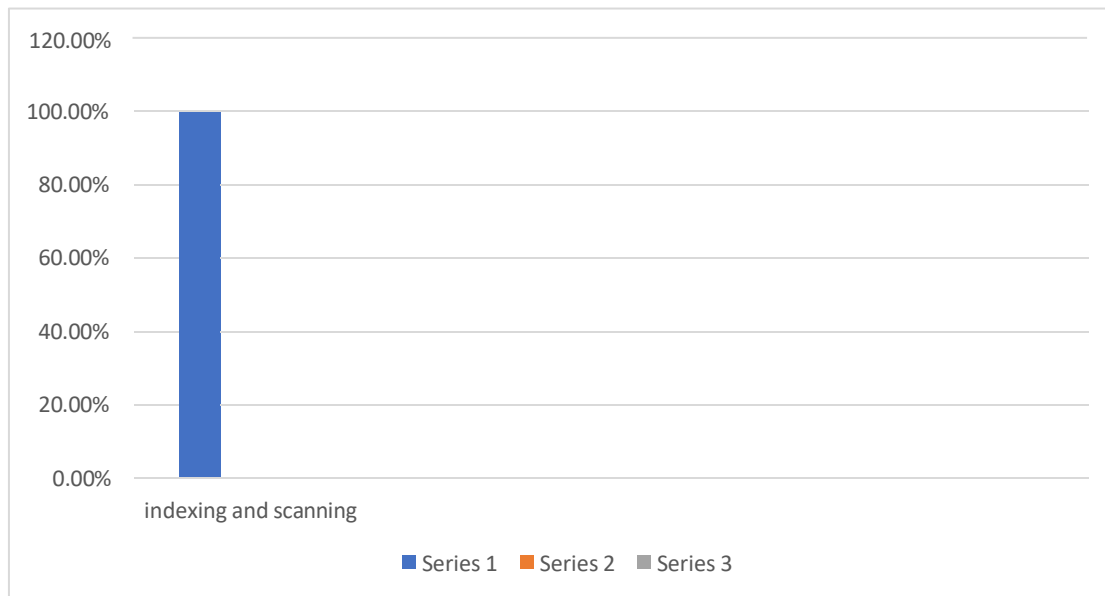
KPI 10) Indexing & Scanning Accuracy (Digital MRD):

Percentage of records correctly indexed and digitized.

Formula: $(\text{Correctly scanned records} / \text{Total scanned}) \times 100$

Target :98%

Result:98.5%



SUGGESTIONS:

The Medical Records Department (MRD) of the American Oncology Institute, several targeted interventions are suggested to enhance the overall performance and quality of record management. One of the primary recommendations is to strengthen the digital transformation of MRD operations. Upgrading the existing Electronic Medical Records (EMR) system to include automated alerts for incomplete documentation, delayed discharge summaries, and physician queries can help reduce turnaround time and improve record completion rates. Furthermore, the implementation of Artificial Intelligence (AI)-enabled tools and Natural Language Processing (NLP) for coding accuracy and error detection can significantly improve documentation quality and indexing efficiency.

Regular and structured training sessions for doctors, nurses, and MRD staff should be institutionalized to improve awareness regarding documentation standards, ICD coding practices, and patient confidentiality protocols. Periodic refresher courses and hands-on workshops can enhance competency and reduce record deficiencies. Additionally, developing and enforcing Standard Operating Procedures (SOPs) specific to documentation timelines, coding workflows, and scanning protocols would promote consistency and accountability across the department.

To ensure continuous quality improvement, it is recommended that internal audits be conducted on a weekly or monthly basis using random sampling. These audits should assess key metrics like record completeness, retrieval time, and confidentiality breach incidents. Findings from such audits must be discussed in departmental review meetings and acted upon promptly. Moreover, establishing a robust feedback loop between MRD staff and clinicians will foster greater collaboration and help address documentation gaps in real-time. Integrating KPI tracking into employee performance appraisals can further motivate staff to maintain high standards of quality and compliance.

Lastly, enhancing the physical infrastructure of the MRD by upgrading scanning stations, providing secure digital storage, and ensuring ergonomic workspaces will improve staff efficiency and reduce operational delays. Strengthening data privacy measures and reviewing access logs regularly can ensure that patient confidentiality is maintained as per NABH and JCI accreditation norms. Overall, a blend of digital innovation, staff training, process standardization, and continuous monitoring is essential to elevate the performance of MRD and support the hospital's commitment to quality care and operational excellence.

CONCLUSION:

The study conducted at the Medical Records Department of the American Oncology Institute (AOI), Nagpur, provides significant insights into the performance level of MRD in terms of quality, accuracy, and operational efficiency. The evaluation of ten key performance indicators revealed that while the department performs well in areas such as record availability, scanning accuracy, and record turnaround time, certain areas—like documentation deficiencies and physician query rates—require targeted improvements.

The integration of technology, staff training, standardization of processes, and enhanced collaboration with clinicians can dramatically improve the functioning of the MRD. Continuous monitoring of performance metrics and timely interventions can help in achieving compliance with accreditation standards such as NABH . As MRDs continue to evolve, especially in oncology settings where documentation plays a vital role in treatment planning, performance improvement in this department becomes both a necessity and a strategic priority.

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