Internship Training

at

International Institute of Health Management Research

Improving completeness of in-patient medical records in 200 bedded private hospital of Delhi NCR.

By

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PG/21/082

Under the guidance of

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PGDM (Hospital & Health Management)

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International Institute of Health Management Research

New Delhi

The certificate is awarded to

Dr. Richa Verma

in recognition of having successfully completed his/her

Internship in the department of

Quality

and has successfully completed his/her Project on

Improving completeness of in-patient medical records in 200 bedded private hospital of Delhi NCR.

Date 15-06-2023

IIHMR, New Delhi

He/She comes across as a committed, sincere & diligent person who has a strong drive & zeal for learning.
We wish him/her all the best for future endeavors.

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I wish him all success in all his/her future endeavors.

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Associate Dean, Academic and Student Affairs
IIHMR, New Delhi

Mentor
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This is to certify that Dr. Richa Verma, a graduate student of the PGDM (Hospital & Health Management) has worked under our guidance and supervision. He/ She is submitting this dissertation titled " **Improving completeness of in-patient medical records in 200 bedded hospital of Delhi NCR**" at "**IIHMR, New Delhi**" in partial fulfillment of the requirements for the award of the PGDM (Hospital & Health Management).

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I would like to express my sincere gratitude to the Quality Department of XYZ Hospital for their continuous guidance; despite being busy with their duties, taking time to hear and guide me, and giving helpful advice, this work would not have been possible without their constant support.

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Also, I wouldn't have made this far without the grace of God.

Date: Dr. Richa Verma

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ACRONYMS / ABBREVIATIONS

1. OPD – OUTPATIENT DEPARTMNET
2. IPD – INPATIENT DEPARTMENT
3. ICU – INTENSIVE CARE UNIT
4. OT – OPERATION THEATRE
5. HDU – HIGH DEPENDENCY UNIT
6. ENT – EAR, NOSE AND THROAT
7. NABH – NATIONAL ACCREDITION BOARD FOR HOSPITALS AND HEALTHCARE
8. NABL – NATIONAL ACCREDITION BOARD FOR TESTING AND CALIBRATION LABORATERIES
9. CT – COMPUTED TOMOGRAPHY
10. MRI – MAGNETIC RESONANCE IMAGING
11. EQAS – EXTERNAL QUALITY ASSESSMENT
12. ACLS – ADVANCED CARDIAC LIFE SUPPORT
13. BLS – BASIC LIFE SUPPORT
14. NICU – NEONATAL INTENSIVE CARE UNIT
15. WHO – WORLD HEALTH ORGANIZATION
16. ME – MEDICATION ERROR
17. LASA – LOOK A LIKE SOUND A LIKE
18. POCQI – POINT OF CARE QUALITY IMPROVEMNET
19. PDCA – PLAN DO CHECK ACT
20. QI – QUALITY IMPROVEMENT
21. AMS – ASSISTANT MEDICAL SUPERITENDENT
22. RMO – RESIDENT MEDICAL OFFICER
23. TL – TEAM LEADER

Section 1

XYZ Healthcare

Dr. Gupta envisioned a multi-speciality hospital for the people of Noida sector 137, It's a 200 bedded hospital spread on a plot area of 1190 sq. mt. with a total area, covering 70,000 sq. ft.

Started from a single speciality clinic name XYZ Astha, then to a 30 bedded nursing home with 30 beds in the year 2011. In the year 2014 foundation of XYZ Hospital was established, within one year inception of multi-speciality came into operation with basic facilities of OPD. With the year passing by bed capacity increased to 200 beds with ICU, NICU and modular OT.

In the year 2017, super speciality Cath labs, CCU, Blood bank, Surgical ICU, Dialysis unit, Nephrology, Urology, and Spine surgery OPDs started. Apart from the Hospital, there are 3 polyclinics in Sector 75, sector 135, and Sector 48 of Noida and catering services to international patients as well.

Dr. DK Gupta, the founder and Managing Director of XYZ Hospital, aims to make XYZ Hospital a 100% success rate for all of the services they offer, including consultation, diagnostics, pharmacy, indoor treatment, surgeries, and aftercare. They are pleased to be a pioneering company in India that focuses on end-to-end healthcare solutions for its patients by achieving every achievement and earning every trust.

VISION, MISSION & CORE VALUES

VISION - XYZ hospital aims to provide World Class Quality Healthcare Services for all.

Mission –XYZ hospital strive to provide responsive, compassionate & patient-centric healthcare with a humanitarian approach. XYZ Hospital envisions to be the healthcare provider of choice in this region.

CORE VALUES - The foundation of XYZ hospital has been its core values. The robust values define the culture and character of our hospital.

Respect – Value people, be it doctors, staff, patient or attendants	**Accountability –** Believe in taking complete responsibility throughout	**Integrity –** Earn the trust through ethical and responsible conduct
Compassion – Bring humanity to work	**Excellence** – Believe in confident pursuit of highest quality	**Innovation**- Strive to redefine the standards of excellence in everything.

SCOPE OF SERVICES

KEY SPECIALITIES

- Mother and childcare
- Critical care
- Emergency and trauma Care
- Interventional Cardiology
- Neurosurgery
- Endocrinology
- Gastroenterology
- Spine Surgery
- Neurology
- Nephrology including Dialysis
- Urology
- Dermatology
- Cosmetology
- Plastic and Reconstructive Surgery

Other Specialities

- Cardiology
- ENT
- Eye Care
- Physiotherapy
- Homeopathy
- Laparoscopic Surgery
- Obstetrics and Gynaecology

- Chest Physician
- Nephrology
- Psychiatry and Psychology
- Nutrition and Dietetics
- Plastic Surgery
- Paediatric
- Neuroscience
- Gastroenterology
- Dermatology
- Dental Care
- Oncology
- Anaesthesiology

INFRASTRUCTURE HIGHLIGHT

- 200 bedded
- NABH And NABL Accredited hospital
- Fully equipped Radiology lab has GE Multi- Slice CT scan machine,3D, 4D Ultrasound machine, 500 MA X Ray, MRI machine
- 24*7 Emergency and Trauma Centre
- In –house Laboratory
- 10 bedded Dialysis Unit
- 24*7 Blood Bank
- In house Ambulance
- Canteen and Cafeteria
- Breast feeding room
- Room Category (General, Economy, Semi Private, Private, Deluxe, Suite)

- 24*7 ATM
- Cashless panel
- Cashless Services
- Custom Packages
- Home Care Services

HOSPITAL FACILITIES

Rooms: At XYZ Hospital there are various room categories as under:

- Suite: Suite at XYZ Hospital has room with a separate washroom, Wi-Fi Connectivity, small refrigerator, a TV, a microwave, two lockers for safekeeping and personal belongings, full time nursing staff, a housekeeper.
- Deluxe: Deluxe room at XYZ Hospital has an attendant bed, Wi-Fi Connectivity, small refrigerator, a TV, lockers for safekeeping and personal belongings, and full time nursing staff available.
- Private Room: Single room at XYZ Hospital has an attendant bed, Wi-Fi connectivity, small refrigerator, a TV, a locker for personal belongings
- Semi Private Room: Multi bed room at XYZ Hospital has chairs and a locker for personal belongings and essentials.
- Cafeteria: Cafeteria of XYZ Hospital opens all day and night, with an assorted range of food and beverage options to choose from. It is located at the ground floor, and is open to employees and visitors. Another food corner setup by healthy café is open from 8:00am to 9:00 pm.
- Laundry Services: Provision of Laundry services have been catered for in the hospital.
- ATM
- Waiting room: Located at the 8th Floor

- Pharmacy: XYZ Hospital has a 24x7 pharmacy located on the ground floor, and one can get medicines anytime one wants
- Blood bank: NABL accredited 24*7 blood bank, to facilitate any requirement for blood. The blood bank adopts most advanced technology and equipment, to collect and store blood for all blood groups - A, B, AB, O (both positive and negative) as per international standards:

    - **Hospital is licensed to provide**
    - Whole Human Blood
    - Blood Components
        - Packed Red Blood Cells
        - Platelet Concentrate
        - Fresh Frozen Plasma
        - Plasmapheresis
    - XYZ hospital blood bank is EQAS accredited. This external audit agency keeps a check on the hospital procedure, quality and safety for collection and checking of blood.
- BEST 24*7 HOME CARE SERVICES
- Sample Collection at Home- Customized preventive health package
- Vein finding machine for prick accuracy
- Reports over WhatsApp
- Single use collection kit for 100% hygiene and safety
- Home Nursing Services - Post-Operative Care
    - Management of medicines
    - Urinary Catheter Care

- Assistance in daily activity

- Old Age Care:
    - Assistance in Daily activities
        - Monitoring overall health and vital signs
        - Intake of medication on time

- Supportive Care:
    - Helping with medical equipment
    - Urinary Catheter Care
    - Assistance in daily activity
    - Injections and Infusions
    - Critical care patients

- Medical Equipment on Rent:
    - Patient Beds
    - Walking Aids
    - Wheel Chair, recliners
    - Bathroom, Toilet Aids
    - Respiratory Support

- Physiotherapy Service:
    - Basic Pain Management like Knee pain, back pain, Shoulder pain
    - Regime Management like personal training, Balancing and Strength Training, Pilates, Taping etc

- Specialized Service for Post-Surgery, Sports Injury etc.

- Ambulance:

  - A fleet of dedicated ambulance available 24*7 for patient carefully equipped to meet any medical emergency such as road accidents, cardiac arrest or transfer of critical patient etc.
  - **Facility available in our Ambulance Includes**
  - Emergency Kit containing all emergency drugs, equipment, drips.
  - Special Shock Absorbers to avoid jerks while taking the patient to the hospital
  - Two-way communication System to communicate between hospital and mobile care unit for expert advice and other requirements.
  - Ventilators, to provide oxygen supply to the patient
  - Telescopic Stretcher
  - Air Condition to provide maximum possible comfort to the patient
  - Suction Machine
  - Defibrillator
  - ACLS and VLS

- International Patients:

  - Help to schedule your appointment with best doctors.
  - VISA Invitation Letter assistance from XYZ hospital.

- Dedicated Point of contact from enquiry to treatment at hospital.
- Interpreter services on call and at hospitals.
- Special food and stay arrangement.
- Hassle free follow up post discharge.

- E- Clinic:

  - Meet the best doctors from anywhere in the world at your convenience.
  - As technology advances, it has become easier to communicate with anyone worldwide. With communication barriers declining, whether you are in a big city or remote village, accessibility of medical facilities and care has increased. With XYZ e-clinic facility, the experts are just a video call away.
  - With Telemedicine, stays in your home's comfort and consult a specialist.
  - Please fill out a simple form, and our executive will do the rest.

- The E-Clinic Facility at XYZ

  - Expect a call back within 2 hours of receiving the request form.

- Our executive will arrange a consultation with the specialist.
- Sample Collection from your home for required tests (blood/urine etc.)
- All required medicines will be delivered at your doorstep.
- Home nursing facility available if required.

Section 2:

DISERTATION

ABSTRACT

Improving completeness of in-patient medical records in 200 bedded hospital of Delhi NCR

Background-

Quality services at hospitals are not only medical services but also support services. Medical records assist healthcare professionals in evaluating the patient's profile, making accurate diagnoses, analyzing treatment outcomes, and planning treatment protocols. This study's goal is to determine whether patient perceptions of hospital treatment quality are correlated with medical record-keeping compliance. In addition to being the most significant medical record, it is a crucial legal document in cases involving personal damage, medical negligence, workers' compensation, and social security disability. Purpose- To assess the reason of incomplete medical records and determine the efficacy of Point- Of-Care Quality improvement (POQCI) model in reducing the number of incomplete medical records going into Medical Record Department (MRD).

Materials and Methods- This quality improvement initiative of quasi- experimental design comprised of conveniently selected medical records of 200 bedded multi speciality hospital. All the sections were assessed and analyzed for compliance and non-compliance. 7 areas were selected to be trained on first for completeness. Interventions were planned after forming a quality improvement team in 2 PDCA cycles (including training of doctors and nurses) as per POQCI model of WHO and results post-intervention were compared.

Results- A total of 753 medical records were audited and studied. 7 areas selected for improvement showed non- compliance of 42%(Average) which reduced to 18%(average) after 2 trainings of the Doctors and nurses($p<0.05$) with significant reduction in number of incomplete medical records.

Conclusions- Implementation of change ideas via PDSA cycles, as per the POQCI model with training of the staff significantly decreased the number of incomplete records going into Medical Record Department.

Chapter 1

INTRODUCTION

BACKGROUND

Medical records assist healthcare professionals in evaluating the patient's profile, making accurate diagnoses, analyzing treatment outcomes, and planning treatment protocols(1). The primary source of information used by healthcare professionals is the medical record. This study's goal is to determine whether patient perceptions of hospital treatment quality are correlated with medical record-keeping compliance. In addition to being the most significant medical record, it is a crucial legal document in cases involving personal damage, medical negligence, workers' compensation, and social security disability(2). Properly maintained documentation of clinical encounters facilitates the better continuation of care across time and providers, provides objective evidence through which to evaluate and monitor clinical practice, and serves as the basis for healthcare payment and reimbursement systems, in addition to being the most significant piece of medical documentation, the medical record is a crucial piece of legal evidence, and to assess the damage or impairment, a review of the medical records is necessary(3) (2). Poor documentation has big, very real effects that are not small. Among many others, patient safety concerns are the key issue. The financial influence on the practice of medicine is another major problem. Also, if the documentation is unreliable, you cannot give the patients accurate health information. The failure to do so may result in problems, including legal problems (2). When recordkeeping is done correctly, care coordination and continuity are enhanced, decision-making skills are strengthened, staff responsibility is increased, and vital statistics are produced with more accuracy(4). Audits of the record-keeping procedures at our multifunctional hospital showed that ward-round notes, which are handwritten clinical notes taken by the doctor during ward rounds, were unstructured, had limited and inconsistent

information, and were selected differently by various doctors. While there was excellent adherence to regularity, legibility, timeliness, drug prescriptions, investigation records, and vital monitoring, there was a pronounced disparity in the reporting of clinical data amongst providers. This ran the risk of leaving out critical information, including changes during a hospital stay, a perception of progress, a change in the clinical diagnosis, an explanation for changing medications, or a recommendation for a new test.(5)

Inadequate medical records make it difficult to manage patients and do related administrative tasks (6). According to a study done in hospital in Delhi the medical record departments' files were taken, and they were compared using a checklist created in compliance with Joint Commission International standards. The information was gathered by examining the records' thoroughness in terms of filing and assembly, coding the records during the review period, admission forms, general consent forms, special consent forms, anesthesia consent forms, anesthesia management forms, postoperative records, doctor's reports, nurse's records, and discharge summaries (7). Hospital case files are made up of multiple paper sheets that are assembled in a standardized way. These sheets come in both preprinted and blank varieties, but each one is assigned and labeled for a certain use. The hospital is certified by the National Accreditation Board for Hospitals, and case files are frequently the subject of thorough audits that evaluate compliance with stringent record-keeping practices, including date and time of the notes, regularity, legibility, patient medication details, investigation details, nursing records, pain score, etc (5). There has been an increase in interest in studying electronic medical records (EMRs) gathered in HIS in recent years. On the basis of EMRs gathered through HIS, medical studies, epidemiological investigations, and illness progression analyses are undertaken. Additionally, the utilization of patients' electronic

medical records can help medical students learn more about clinical procedures(8). Despite the value of thorough documentation, multiple instances of subpar documentation are often shown. With the conversion of several hospitals to an EMR and the installation of the My Health Record, major changes have recently been made to the medical record in Australia. For the purpose of putting improvement measures into place and closing the quality loop, standards of patient care should be regularly assessed and inadequacies should be found(9). Patient care continuity refers to both management continuity, which is the management of the patient's disease in a coherent and consistent manner across settings, and information continuity, which is the sharing of patient information among people involved in the care(10).

Another Similar study conducted in India results that in 21 (16.1%) situations, the patient's address was absent. A total of 96 patients (73.8%) had diagnoses using acronyms. One (0.76%) had missing data for age and sex. The doctor's signature was unreadable in 103 (79.3%) summaries and absent in 2 (1.5%) of them. The level/position of the doctor and their name were absent in 118 (90.76%) and 125 (96.1%) cases, respectively (11). A study conducted at Royal college Physicians where 189 medical entries were evaluated during the initial audit, and 274 were evaluated during the follow-up audit. Numerous categories, such as the recording of time (19-82%), author name (60-89%), patient location (58-94%), and identity of the most senior doctor present (68-89%), all saw a substantial improvement (p 0.001) (12).These results have the potential to improve the standard of medical record documentation among medical professionals by drawing attention to present shortcomings and encouraging change in current practice. Additionally, the findings of poor system performance will encourage modification of the current system for providing patients with outpatient care(13). Medical records have a variety of uses, but its main objective is to document

details about patients and their care. Hospitals and doctors can accurately assess where they stand in terms of accuracy and compliance for medical record keeping by conducting a well-planned evaluation of medical records and the related clinical documentation processes. There are two ways to conduct a medical record audit: one involves the auditors themselves, and the other involves the actions they take (14). A vital instrument in contemporary medical practice are medical records. Despite the significance of thorough documentation in the medical record, numerous instances of inadequate documentation have been shown, including subpar documentation by junior doctors during consultant ward rounds that resulted in a breakdown in communication between healthcare professionals and potential patient mismanagement. Surgical discharge notes have shown additional deficiencies in medical record documentation, with complete and accurate documentation reported to be as low as 65%.(13)

The Point-Of-Care Quality Improvement (POCQI) model 12 has been developed by the WHO/SEARO (World Health Organization- South East Asia Region Office) in collaboration with other organizations to analyze practice performance and give fixes for issues preventing the provision of standard healthcare.(15). POCQI is a four-step, simplified methodology that enables and empowers teams of health workers to use local data to identify quality gaps (problems or issues), conduct root-cause analysis in their own setting, then choose and implement a solution to solve the problem. The concepts are tested using local data and PDSA cycles (16). To assess the reason of incomplete medical records and determine the efficacy of Point- Of-Care Quality improvement (POQCI) model in reducing the number of incomplete medical records going into Medical Record Department (MRD).

Chapter 2

METHODOLOGY

Methodology-

This Quasi- experimental study was conducted over a period of 4 month in the mentioned study setting. The study was done with conveniently selecting medical files of patients admitted in different wards of hospital during the study period and auditing the sheets attached in file for completeness of all the details mentioned.

The study was covered in Three phases- the Baseline phase for 40 days, Training period of 7 days with the analysis of the data collected of 14 days after giving training and again training on the short comings found and analysing data for 38 days after the second training. This 38 day was broke into first 17days to check the progress of study and then the whole data was also analyzed after 38 days. Files were audited according to the convenience of the auditor, during the course of day whenever member from quality department was on floors for auditing, files available over the nursing stations were selected for audit. The files and case sheets for Day Care were not included as the process of day Care was under implementation and the process was not streamlined. Also the LAMA patients (Leave Against Medical Advice) were not included in the study as many of the times when they are requesting for leaving, consultant might not be available to sign the sheets.

All the files audited were considered in the study. In Baseline study total of 304 files were available and were taken into study. Main areas where the missing percentage was higher were pointed out (Table 1: Audit form of hospital) and after the discussion with quality team, 7 areas according to the importance in case sheet were taken on to be worked upon first(Table 2). After that training was conducted for the period of one week. Training was conducted during different hours so that maximum staff could attend it.2 sessions were conducted during the evening so that staff can join for training

after their shift and 2 sessions were planned in morning so that staff from night shift can attend as well as staff from morning shift can join, if in case they missed evening session. After the training , data was collected for 14 days and analyzed for the improvement made and the areas to be worked upon were identified(Graph 1, N=74). Again training sessions were organised the same way to train on the deficit points for 10 days. After 10 days training period data was again collected for 37 days , which was break into first 17 days to check if the improvement is there or not(Graph2, N=187) , and then whole data together for 37 days was also analyzed for improvement.

A quality improvement (QI) team was formed according to POQCI module comprising of total nine members including [2 members of quality department, Nursing superintendent(NS), Assistant Nursing Superintendent(ANS), Deputy Nursing Superintendent(DNS), MRD in-charge, Medical Superintendent(MS), Assistant Medical Superintendent(AMS)]. The team decided to review the data collected every week for progress and train the staff on-job for the deficit. Also the problem encountered were discussed in meeting from nursing heads and the possible solution was worked upon.

TABLE 1: Audit Form of Hospital

CATEGORIES	COMPLIANCE(C)	PARTIAL COMPLIANCE (PC)	NON COMPLIANCE (NC)	NOT APPLICABLE(NA)	Total	Sum(PC+NC)	% NC
Registration form for admission	303		1		304		
Signature [Patient Signature]	245	8	51		304	59	19.4079
Signature [Patient relative Signature]	273	13	18		304	31	10.1974
Every investigation mentioned in the sheet	298		6		304	6	1.97368
RMO daily Signature	232		72		304	72	23.6842
Ward Incharge daily Signature	238	1	65		304	66	21.7105
ED Assessment Parameters [Triage]	283		12	9	304	12	3.94737
ED Assessment Parameters [MLC]	289		6	9	304	6	1.97368
ED Assessment Parameters [Chief Complaints]	295			9	304	0	0
ED Assessment Parameters [History of persent Illness]	296			8	304	0	0
ED Assessment Parameters [Primary Survey]	296			8	304	0	0
ED Assessment Parameters [Pain Scale]	250	4	41	9	304	45	14.8026
ED Assessment Parameters [Allergy]	292	3		9	304	3	0.98684

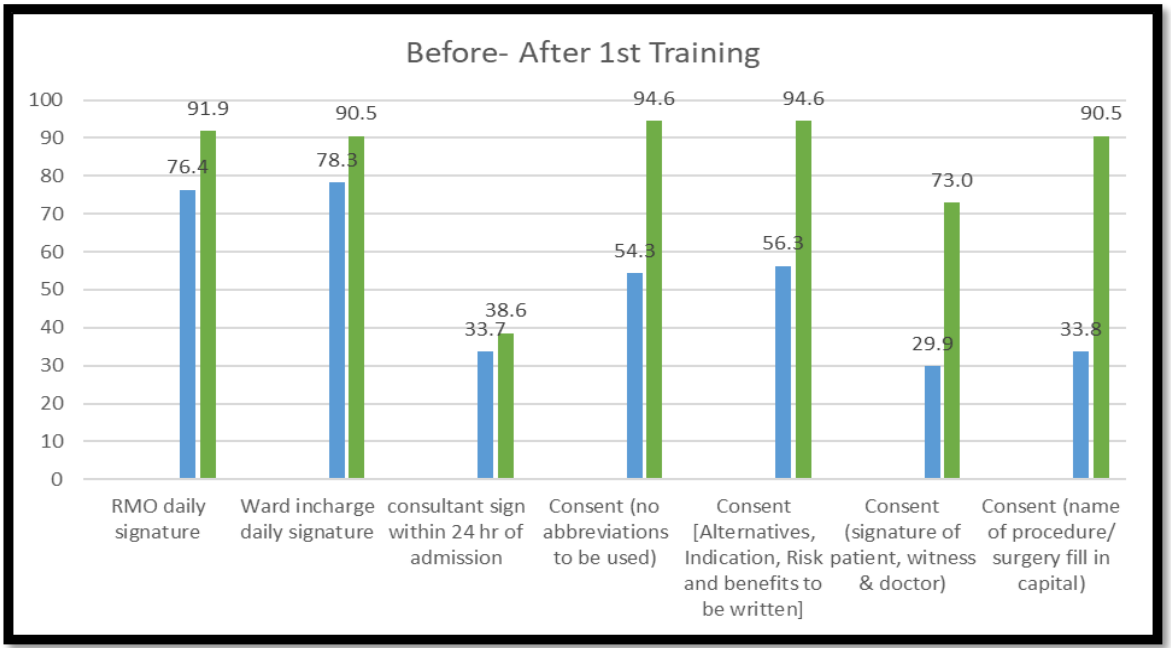
ED Assessment Parameters [Secondary Survey]	183	111	1	9	304	112	36.8421
ED Assessment Parameters [Working Diagnosis in capital]	69	223	3	9	304	226	74.3421
ED Assessment Parameters [Tratment Advice]	275	11			304	11	3.61842
ED Assessment Parameters [Consultantations]	275	20	1		304	21	6.90789
ED Assessment Parameters [Plan of care]	261	33	2	8	304	35	11.5132
ED Assessment Parameters [Diet Plan]	285	2	8		304	10	3.28947
ED Assessment Parameters [Investigation sign]	293	2	1		304	3	0.98684
ED Assessment Parameters [ER physician sign with name, ID, Date and Time]	289	6	1		304	7	2.30263
IPD Assessment Parameters [Source of History]	298		2	4	304	2	0.65789
IPD Assessment Parameters [Past History]	298		2	4	304	2	0.65789
IPD Assessment Parameters [Allergies]	298		2	4	304	2	0.65789
IPD Assessment Parameters [Pain assessment done or not]	220		65	4	304	65	21.3816
IPD Assessment Parameters [Current Medication mentioned or not]	274	3	3	4	304	6	1.97368
IPD Assessment Parameters [Diet History]	207		93	4	304	93	30.5921
IPD Assessment Parameters [Family History]	212		85	7	304	85	27.9605
IPD Assessment Parameters [Revise Care Plan per day by Doctor]	2	1	2	299	304	3	0.98684
IPD Assessment Parameters [Care bundle In ICU (each shift)]	52	7	3	242	304	10	3.28947
IPD Assessment Parameters [Social/Economical History]	113	6	179	6	304	185	60.8553
IPD Assessment Parameters [Psychological Assessment]	96	4	199	5	304	203	66.7763
IPD Assessment Parameters [Family Education]	56	2	94	152	304	96	31.5789
IPD Assessment Parameters [systemic/ general/ Physical examination]	271	23	5	5	304	28	9.21053
IPD Assessment Parameters [Date,time,sign & name of Doctor present(with in 2 hrs)]	292	4	5	3	304	9	2.96053
IPD Assessment Parameters [Consultant counter signed within 24 hrs of the admission]	98	69	124	13	304	193	63.4868
Patient and Family Communication [To be filled every day]	49	3	172	80	304	175	57.5658
Patient and Family Communication [Signature of witness/ Patient]	44	8	172	80	304	180	59.2105
Patient and Family Communication [Signature of Doctors]	52		172	80	304	172	56.5789
Doctors_Progress notes [XYZ ID, Date, Time, name and signature]	146	154	2	2	304	156	51.3158
Doctors_Progress notes [To check for abbreviations]	283	17	2	2	304	19	6.25
Doctors_Progress notes [Re-assessed at appropriate intervals(at least twice a day)]	297	3	2	2	304	5	1.64474
Doctors_Progress notes [Any cutting or over writing in the record]	251	49	2	2	304	51	16.7763
Doctors_Progress notes [Legible handwriting- Signature/name readable]	279	21	2	2	304	23	7.56579
Medication order [Orders to b in Capital]	295	5	1	3	304	6	1.97368

Medication order [For SOS indication and maximum dosage for 24 hours]	300		1	3	304	1	0.32895
Medication order [Signature, XYZ id and name on medication chart]	217	81	3	3	304	84	27.6316
Medication order [Dosage, route, frequency to be mentioned for each medicine.]	295	5	1	3	304	6	1.97368
Medication order [Medication order to be written on the Medication chart.]	297	1	3	3	304	4	1.31579
Nutritional Assessment [Daily Asessment]	218	1	64	21	304	65	21.3816
Nutritional Assessment [Daily Signature]	219		64	21	304	64	21.0526
Nutritional Assessment [Diet Calculate]	219		64	21	304	64	21.0526
Physiotherapy Assessment Parameters [Pain Asessment]	1		2	301	304	2	0.65789
Physiotherapy Assessment Parameters [Local Examination]	36		2	266	304	2	0.65789
Physiotherapy Assessment Parameters [Provisional Diagnosis]	31		1	272	304	1	0.32895
Physiotherapy Assessment Parameters [Treatment Plan]	38		1	265	304	1	0.32895
Physiotherapy Assessment Parameters [Signature By Physio]	41		1	262	304	1	0.32895
Physiotherapy Assessment Parameters [Signature By Physio Head]	3		1	300	304	1	0.32895
Doctors_Progress notes [XYZ ID, Date, Time, name and signature]	6		1	297	304	1	0.32895
Doctors_Progress notes [To check for abbreviations]	6		1	297	304	1	0.32895
Doctors_Progress notes [Re-assessed at appropriate intervals(at least twice a day)]	6		1	297	304	1	0.32895
Doctors_Progress notes [Any cutting or over writing in the record]	5	1	1	297	304	2	0.65789
Doctors_Progress notes [Legible handwriting-Signature/name readable]	6		1	297	304	1	0.32895
Consent [No abbreviations to be used]	114	6	90	94	304	96	31.5789
Consent [Alternatives, Indication, Risk and benefits to be written]	117	5	86	96	304	91	29.9342
Consent [Signature of Patient, Witness and doctor.]	63	59	89	93	304	148	48.6842
Consent [Name of procedure/surgery fill in capital]	71	49	90	94	304	139	45.7237
Restrain Order [To check for date and time]	8	2	7	287	304	9	2.96053
Restrain Order [Reason for restrain]	7	2	8	287	304	10	3.28947
Restrain Order [Attendant signature]	9	2	6	287	304	8	2.63158
Restrain Order [It is revised every 12 hours]	9	2	6	287	304	8	2.63158
Care Bundle Daily Fill	51	10		243	304	10	3.28947
Denial Consent [In case of denial for any procedure and treatment the from should be filled]	6			298	304	0	0
Surgery Document Parameters [Surgery Consent]	23	2		279	304	2	0.65789
Surgery Document Parameters [High Risk Consent]	24	1		279	304	1	0.32895
Surgery Document Parameters [Pre Operative]	23	1		280	304	1	0.32895
Surgery Document Parameters [Anaesthesia Record]	22	1		281	304	1	0.32895
Surgery Document Parameters [Intra Operative Checklist]	24			280	304	0	0

Surgery Document Parameters [OT Note]	23	1		280	304	1	0.32895
Anaesthesia Record [Consent for Anaesthesia/Obstetric Analgesia]	24	1	1	278	304	2	0.65789
Anaesthesia Record [Pre-operative checklist]	25		1	278	304	1	0.32895
Anaesthesia Record [Safety checklist]	24	1	1	278	304	2	0.65789
Anaesthesia Record [Modified Aldrete Score]	14		1	289	304	1	0.32895
Operation Notes Parameters [Start and ned time of Surgery]	1	3	8	277	304	11	3.61842
Operation Notes Parameters [Incision]	7	4			304	4	1.31579
Operation Notes Parameters [Pre and Post operative Diagnosis]	4	2	5	278	304	7	2.30263
Operation Notes Parameters [Blood loss]	2			283	304	0	0
Operation Notes Parameters [Blood Product replaced if any]	2		4	283	304	4	1.31579
Operation Notes Parameters [Specimen for HPE]	5		4	280	304	4	1.31579
Operation Notes Parameters [Complications]	1		4	284	304	4	1.31579
Operation Notes Parameters [Condition at the end of procedure]	4		4	281	304	4	1.31579
Operation Notes Parameters [Signature and name of doctor]	8		4	277	304	4	1.31579
Consultant Visit sheet [2 Visit in a Day]	274	10	4	1	304	14	4.60526
Consultant Visit sheet [Signature on visit sheet]	280	5	3	1	304	8	2.63158
Discharge sheet	304				304	0	0

TABLE 2: Areas selected for improvement (N=304)

baseline 304	Non-compliance	Number	Total-NA	Compliance	Number
RMO daily signature	**23.68%**	72		**76.4**	232
Ward incharge daily signature	**21.71%**	66		**78.3**	238
consultant sign within 24 hr of admission	**66.32%**	193	291	**33.7**	98
Consent (no abbreviations to be used)	**45.71%**	96	210	**54.3**	114
Consent [Alternatives, Indication, Risk and benefits to be wri	**43.75%**	91	208	**56.3**	117
Consent (signature of patient, witness & doctor)	**70.14%**	148	211	**29.9**	63
Consent (name of procedure/ surgery fill in capital)	**66.19%**	139	210	**33.8**	71



Graph 1: Baseline-After 1st training

Graph 2: Baseline-After 1st training-After 2nd training (17 days)

Baseline After 1st Training After 2nd Training

Chapter 3

MEASURES

Measures

As previously noted, 304 audited files were used to acquire baseline data over a 40-day period. The percentage of compliance and non-compliance for each of the parts listed in the Audit form was calculated after a thorough analysis of all the files. Many of the parts in the files were blank, so following a meeting with the quality team, it was decided to focus training on two of the main issues (consent and signature, along with their seven subareas), initially.

To accommodate the most hospital employees possible, training was scheduled in two shifts. So that nurses and RMOs may arrive after their shifts ended, one shift was scheduled for the evening at 5:00pm. One shift was scheduled for the morning at 8:00am so that employees from the night shift could attend and those who couldn't earlier might arrive a little early for their shift to attend. In an interactive session, the staff was questioned about the issues the hospital is experiencing and, if applicable, the cause of the case sheet's unfilled spaces.

They were informed of the value of thorough medical records for patients, employees, and hospitals. And the complications that an incomplete medical record can have for the patient, the staff, and the institution. We questioned RMOs and Nurses about the vacant spaces on the case sheet and the difficulty they are having filling it out. Interviews were performed to learn more about the case sheet filling procedure, the reasons why some sheets were incomplete, and possible improvements.. All data derived from document review, staff interview were collected and analysed as material to determine the root of the problem using cause and effect diagram(**FIGURE 1**) By cause-effect analysis with the help of fish bone diagram ,the QI team identified certain lacunae which were as follow-(1) Doctors are busy with OPD; (2) RMOs are overburden as 1 RMO is assigned

with 2 floors; (3) Number of visit of consultant is not per policy; (4) Nursing staff forgets to take signature from consultant; (5) Improper handover by nurses.

The QI team came up with some change ideas and tested in a stepwise manner using plan-do-study-act (PDSA) cycles, and implemented the successful PDSA cycle to achieve the aim. While first PDSA cycle RMOs were advised to sign the case sheet at the very first day, nurses were advised to take the signature of consultants while they are on round. For consent form they were told the importance of each sections mentioned and the problems which hospital can face by not abiding to it.

All of the first PDCA's deficiencies were noted, and subsequent training was planned to address them. As the area of consultant signature was still lagging behind in compliance during the second PDSA cycle, a conversation was had with the medical superintendent, and he was asked to address the consultants during the weekly strategic meeting that takes place in the hospital every Thursday. MS briefed consultants with the data and suggested that they sign the forms while they are out on rounds. Before the first page of the case file, there was an additional MRD list used in hospitals so that a countercheck could be performed on all completed documents before sending them to MRD.

Statistical analysis-

Data were entered in Microsoft Excel spreadsheets and represented via tables and diagrams. Using Open-Epi software, Chi-square test will be performed to test associations between certain factors such as RMO daily signature, Ward in-charge daily signature, Consultant sign within 24 hr of admission, Consent (no abbreviations to be used), Consent (Alternatives, Indication, Risk and benefits to be written), Consent (signature of patient, witness & doctor), Consent (name of procedure/ surgery fill in capital). A value of $p<0.05$ will be considered as statistically significant.

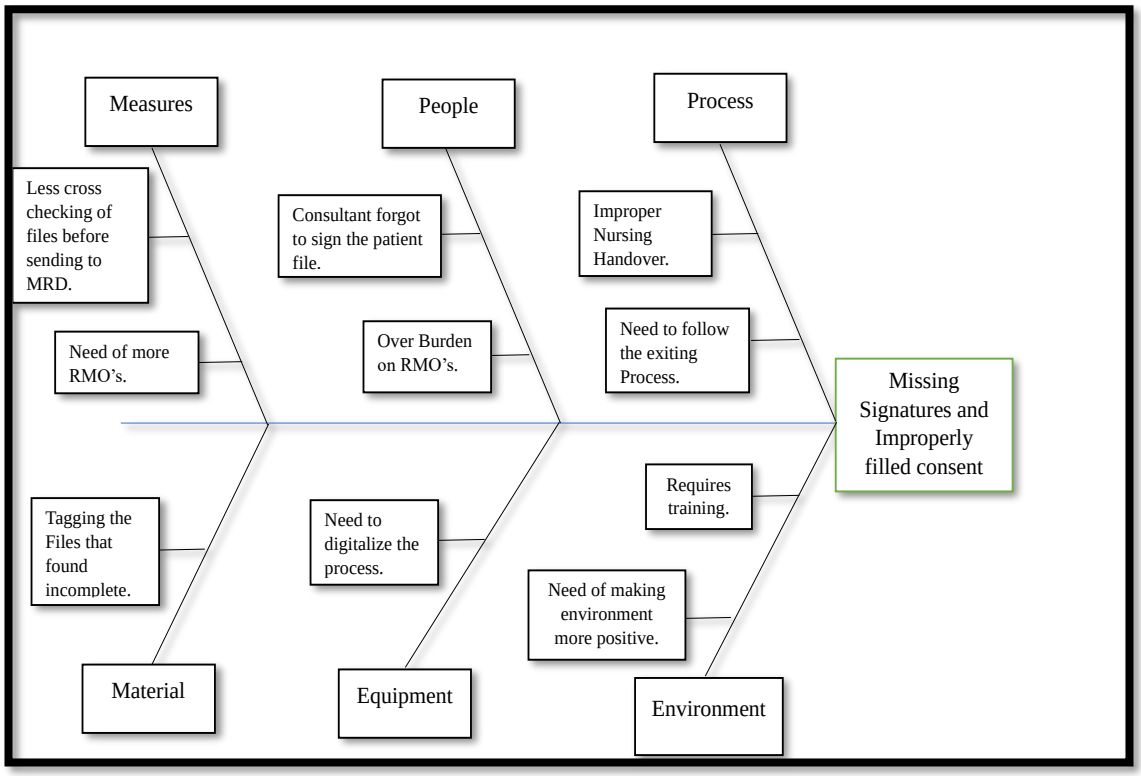


Figure 1: Cause and Effect Diagram (Fish Bone Analysis)

Chapter 4

RESULTS

Results

A Total of 753 case sheets were audited and included in study over the period of 4 months.

In the baseline study, all the files audited by quality department were taken into consideration and all the points in case sheet were analyzed for compliance, partial compliance, non-compliance and non-applicable to the case. In the baseline phase, RMO daily signatures compliance was 76.4% , ward in-charge daily signature non-compliance was 78.3% , consultant signs within 24 hr of admission non- compliance was 33.7% . In Consent form- No abbreviations to be used, Alternatives/indication/risk/benefit to be written, signature of patient/witness/doctor and Name of procedure/ surgery fill in capital had non-compliance of 54.3%, 56.3%, 29.9%, 33.8% respectively.(Table 2)

With the intervention in each PDSA cycle, the successive reduction in total number of incomplete case sheet is shown in Table 3.

After the first PDSA, there was an increase in compliance across all of the selected 7 categories. The compliance climbed to 91.9% [p-value(2 tail)=0.0037] for the RMO's daily signature, 90.5% [p-value(2 tail)=0.016] for the ward in-charge's daily signature, and 38.6% [p-value(2 tail)=0.4397] for the consultant's signature within 24 hours of admission. For consent, no abbreviations are allowed. Alternatives, indications, risks, and benefits must be written down. The name of the procedure or surgery must be written in capital letters. Compliance increased to 94.6[p-value(2 tail)=0.00001], 94.6[p-value(2 tail)=0.0003], 73[p-value(2 tail)=0.004, and 90.5[p-value(2

tail)=0.000001] for each procedure and surgery, respectively..[**Refer to Supplematry for p-value calculations]**

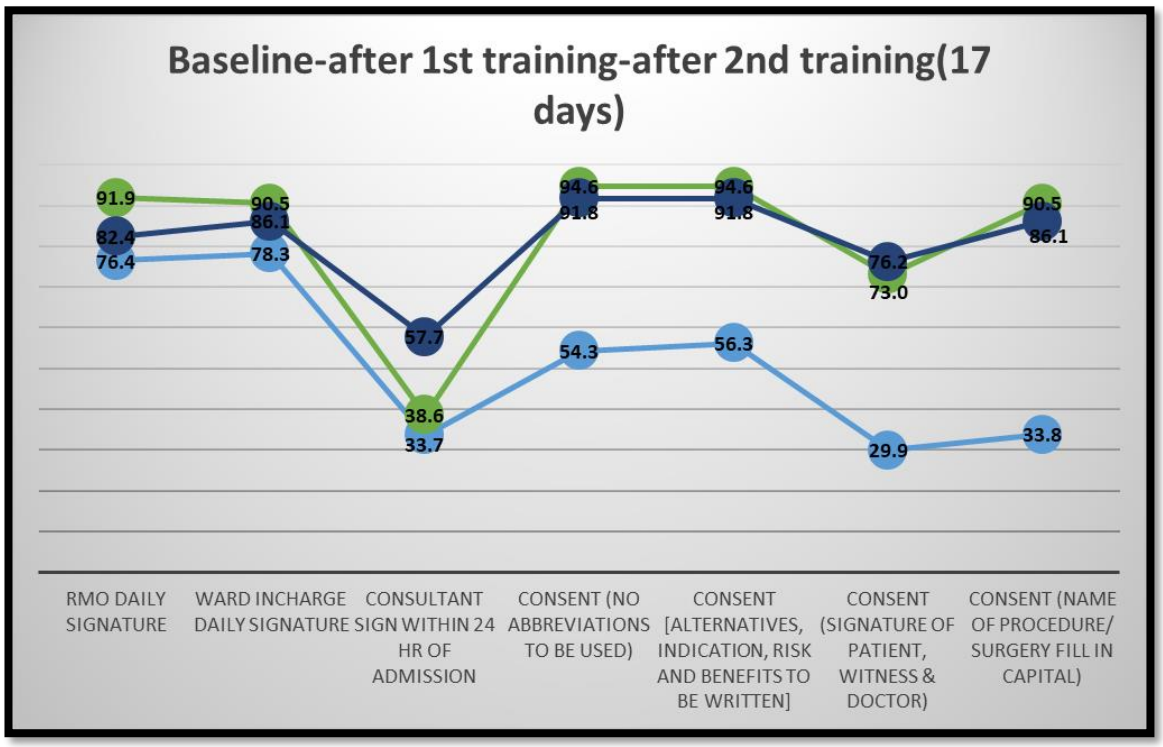
Few areas did not significantly improve even after instruction, so more training was undertaken. Improvements were seen in all categories, with a greater emphasis on those that had deficits following the first training. Data was analysed after 17 days, and compliance increased, with the RMO's daily signature increasing to 82.4%, the Ward in-charge's daily signature increasing to 86.1%, and the consultant's signature increasing to 57.7% within 24 hours of admission. No abbreviations are allowed when expressing consent. Alternatives, indications, risks, and benefits must be put down, along with the patient's signature and that of any witnesses. Capitalise the operation or surgery's name, and the compliance rate has climbed to 91.8, 91.8, 76.2, and 86.1, respectively.

So the area we were focusing on showed marked improvement after 2nd training, so we continued data collection after 17 days, for 20 more days. After 37 days , data was analyzed and pre and post intervention was compared.(**Graph 4**)(Figure)

Compliance increased from 76.4 % to 82.4% (p-value<0.05) for RMO daily signature. For ward in-charge daily signature compliance increased from 78.3% to 86.1%(p-value<0.05). For Consultant signature within 24 hr compliance increased from 33.7% to 57.7%(p-value <0.05).

For consent- no abbreviations to be used showed improvement from 54.3% to 91.8%, Alternative/ Indication/ Risk and benefits to be written compliance increased from 56.3% to 91.8%, signature of patient/ witness & doctor compliance increased from 29.9% to 76.2%, name of procedure/ surgery fill in capital showed improvement from 33.8% to 86.1%.(p-value<0.05 for all cases)[**Refer Supplementary for p-value for calculation]**

We tried sending this communication to all the consultants using MS because we were seriously short on consultant signatures within the next 24 hours. We had intended to connect with the consultants at the weekly Thursday strategic meeting as they were unable to attend the training due to their busy schedules. According to NABH rules, MS presented them the data and explained the significance of the signature. After this encounter, a noticeable improvement was observed. (Graph 3)

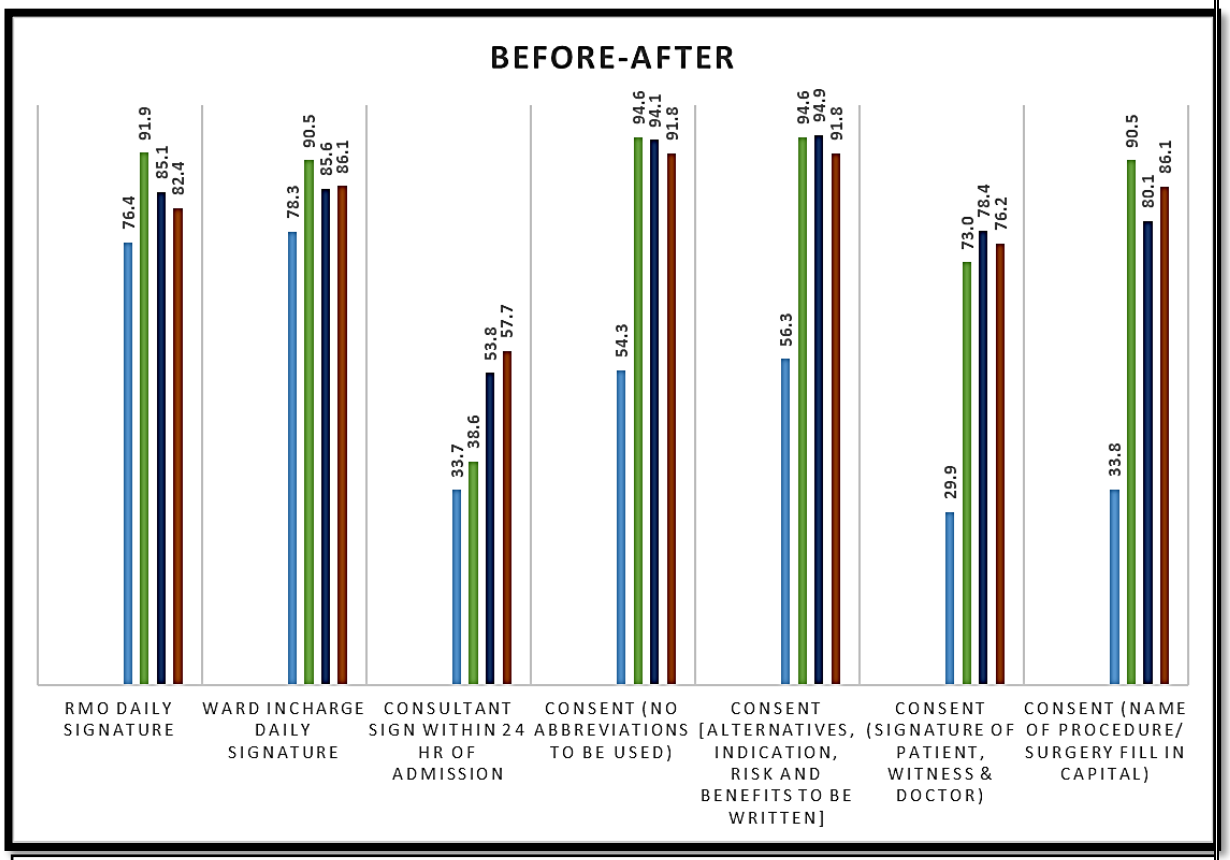


Graph – 3: Comparison of baseline data and data after 1st and 2nd PDCA

Baseline After 1st Training After 2nd Training

	C%(baseline)	C%(after 1st training)	C%(after 1d day of 2nd training)
RMO daily signature	76.4	91.9	85.1
Ward incharge daily signature	78.3	90.5	85.6
consultant sign within 24 hr of admission	33.7	38.6	53.8
Consent (no abbreviations to be used)	54.3	94.6	94.1
Consent [Alternatives, Indication, Risk and benefits to be written]	56.3	94.6	94.9
Consent (signature of patient, witness & doctor)	29.9	73.0	787.4
Consent (name of procedure/ surgery fill in capital)	33.8	90.5	80.1

We urged nurses to double-check everything contained in the MRD concurrent checklist before delivering the file to MRD in order to catch any signatures left on permission forms and other items. Improvement was noted, and the nurses responded favourably to it. Because of their workload, nurses frequently forget to perform necessary tasks, but attaching this made them remember what they should have done in the first place.



Graph 4: Comparison of baseline and after training data

MISSING AREAS	Baseline phase N=304		After 2 Trainings N=375	
	% compliance	%Non-compliance	% compliance	%Non-compliance
RMO daily signature	23.7%	**76.4**	14.9	**85.1**
Ward incharge daily signature	21.7%	**78.3**	14.4	**85.6**
Consultant sign within 24 hr of admission	66.3%	**33.7**	46.2	**53.8**
Consent (no abbreviations to be used)	45.7%	**54.3**	5.9	**94.1**
Consent [Alternatives, Indication, Risk and benefits to be written]	43.8%	**56.3**	5.1	**94.9**
Consent (signature of patient, witness & doctor)	29.9%	**70.4**	21.6	**78.4**
Consent (name of procedure/ surgery fill in capital)	66.2%	**33.8**	19.9	**80.1**

TABLE 3: Baseline data & After 2 training data

Chapter 5

DISCUSSION

Discussions

With cumulative application and implementation of the concepts at the end of the two PDSA cycles, this project may ultimately succeed in its wise goal of lowering the incompleteness of medical record. The application of QI methodology, a newly developed PDSA cycle developed and run in different stages.

Complete MRD has an important role in hospital evaluation and may reduce the assessment score of the medical record and the clinical ward of hospital.(1)

In the baseline phase, it was observed that RMO daily signatures compliance was 76.4% , ward in-charge daily signature non-compliance was 78.3% , consultant signs within 24 hr of admission non- compliance was 33.7% . In Consent form- No abbreviations to be used, Alternatives/indication/risk/benefit to be written, signature of patient/witness/doctor and Name of procedure/ surgery fill in capital had non-compliance of 54.3%, 56.3%, 29.9%, 33.8% respectively, but with training cycles through PDSA it was noticed that 76.4 % to 82.4% (p-value<0.05) for RMO daily signature. For ward in-charge daily signature compliance increased from 78.3% to 86.1%(p-value<0.05). For Consultant signature within 24 hr compliance increased from 33.7% to 57.7%(p-value <0.05)

The incompleteness according to Nurhaida et al, can be caused by human resources that are doctors and nurses whose lack of discipline in medical record filling.(17)

The concurrent list was attached to the medical records, which increased the case sheets' degree of completion. An identical study was conducted in an Iranian training

hospital, and Torki et al. discovered that by attaching a defect elimination sheet to medical records, we force staff to complete incomplete records and that they understand that their completion will be monitored and that incomplete records will be sent back to them for completion. We force doctors to fill out blank medical records even if they are aware that doing so will be watched and that incomplete records will be returned back to them for completion by inserting defect-eliminating forms on medical records. According to this survey, just 20.6% of medical records included pretty comprehensive summary sheets, and 27.2% didn't. (18).

In the United States of America, a comparable study showed that CMS recovery audits with hospital denials rose from 7 to 10% in recent years as a result of open or insufficient medical data. The adoption of the EHR has resulted in an increase in provider documentation time, however the implementation may have been improved with trainings. (6)

Similar research was done to determine the impact of trauma victims. 106 admissions on catastrophe beds between October 1 and December 31, 2015, were analysed. The patient's signature, the doctor's signature, and the witness' name were all missing in more than 50% of the consent situations. Discharge report that excluded the conclusions of the investigation, the doctor's signature, and the emergency contacts. Referral (42%) and transfer (61%) were incorrectly recorded in the other records. (7)

The accuracy of medical records improved as a result of intervention (staff training). According to a study by Teklewold et al., the Hospital of Ethiopia's surgical inpatient medical records are now more complete thanks to interventions such format changes, ongoing observation, and the addition of chart completeness. (1)

The initial change concept for improvement may be to begin training the medical staff using the QI paradigm and a team-based approach. The study by Mondal et al. on

reducing medication errors in the neonatal care unit of a tertiary care hospital demonstrated that we may enhance the quality process at the hospital by using the Quality Improvement model.(QI)(2)

With staff training, this approach may finally succeed in reducing the number of incomplete medical records in multispecialty hospitals.

Chapter 6

CONCLUSIONS

Conclusion

To improve the efficacy and efficiency of medical record completion, several different methods must be modified. The procedure of filling up and reviewing medical records should be expedited. The evaluation of medical record services guidelines has not been. The non-compliance characteristics were 42% during the baseline assessment, however they were only 18% following the post evaluation of the second PDSA cycle. Understanding how to fill up a case sheet: New hires receive periodic training on how to complete case sheets. progress was extremely evident in the findings after two PDSA cycles and routine staff trainings, and several small initiatives have demonstrated progress in the process. Red Dot Stickers are used to highlight incomplete files so that personnel can fill in the gaps. One of the study's key findings was that staff members need supervision when evaluating how comprehensive a medical record is. It is essential to conduct additional research and an observation.

Suggestions

Time to time training of staff so that new staff should also be aware of the policy and procedures.

A team leader should be assigned in the nursing team for proper supervision and allocation of task.

Increase the staff in medical record department and involve them during the meeting.

Tagging the incomplete file with RED dot sticker so that staff should be aware of the incompleteness in the file.

Streamline the process of signature in case sheet of patients by Consultants,RMO and Nurses.

Limitation

This project overall successfully implemented the POQCI methodology in dealing with the number of incomplete medical records, however this study has few limitations. As I was not part of the hospital as regular employee, I could not streamline the processes. Additionally, the Quality Team and MRD Team did not have enough personnel in relation to the hospital's patient load, making it impossible to compute the number of incomplete medical records in the Medical Record Department at the baseline trial and the degree to which the medical records were complete following the intervention. They were unable to attend the training sessions due to their busy schedules and the consultant's hectic schedule.

Supplementary

2 PDSA cycle were made.

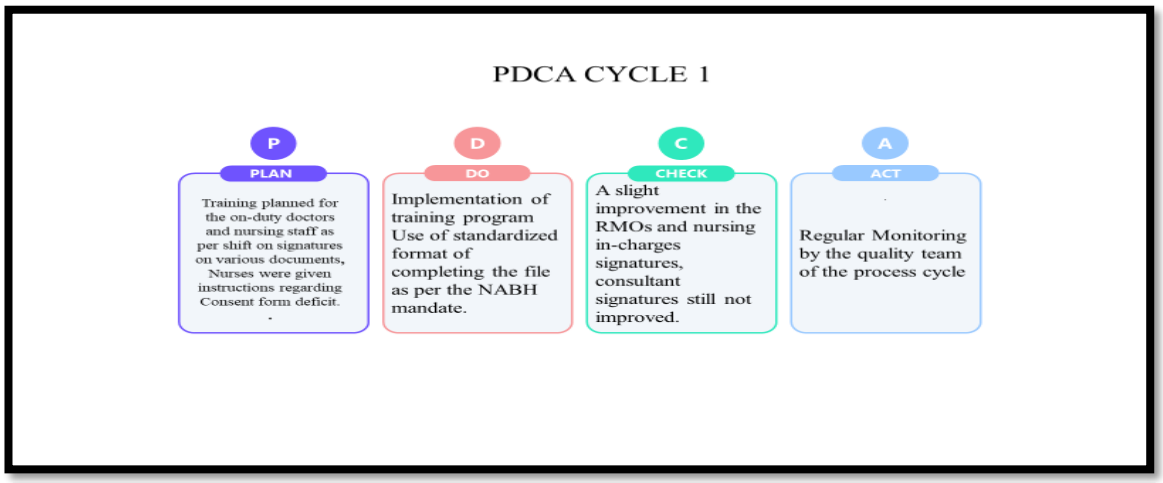


Figure 2

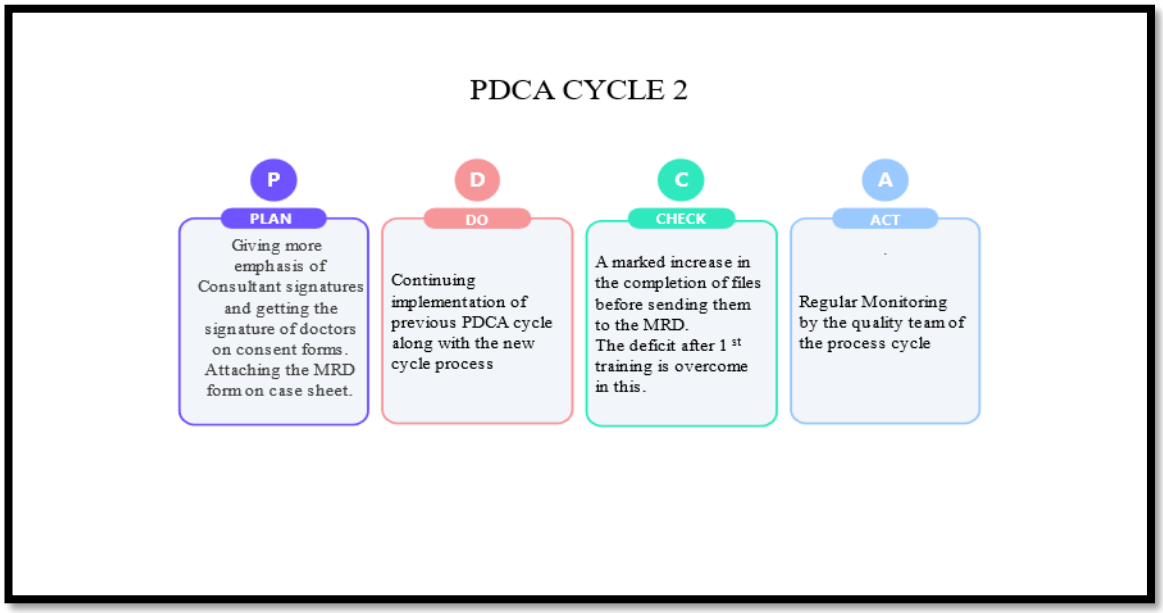
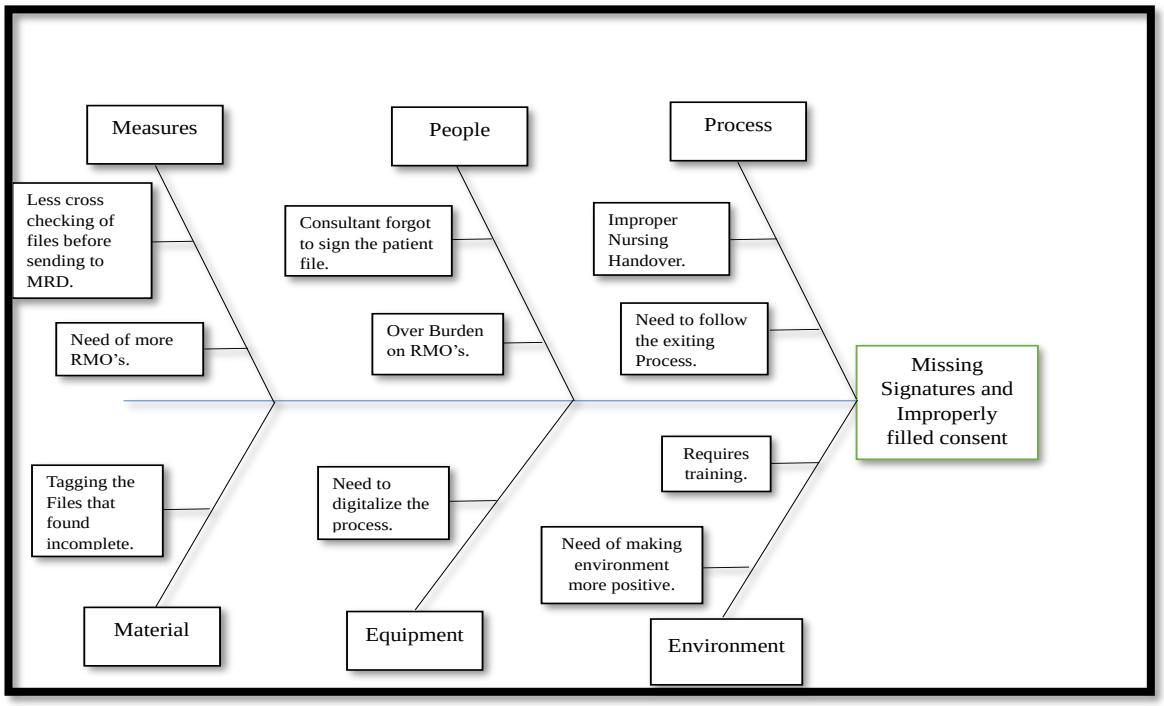


Figure 3

Cause & Effect Diagram (Fish Bone Analysis)



Process

- Nursing Handover needs to be done properly and NS should keep a track of handover as per the checklist.
- All the staff need to follow the already existing process of completing the file before sending to MRD.

People

- Consultants need to sign the files during their first visit to the patient so that discrepancies in the files get reduced.
- RMOs have been given the extra burden of doing the audit of the handover register, and as well as single RMO is looking 20 patients at a time.

Measures

- Nursing in-charges should cross the files before sending it to the MRD so that more and more files get completed.
- More RMOs need to be hired so the existing workload on the RMOs gets reduced.

Environment

- Nursing staff, RMO and consultant needs to be trained by the quality department and MRD department so that they can understand the significance of completed files
- A positive attitude from the nurse in-charge and the whole team needs to be maintained, and the nursing team and doctors need to be encouraged and motivated from time to time.

Equipment

- Need to implement the EHR system in the hospital to digitalize the process of patient files.

Material

- During the audit, incomplete files need to be tagged by the red dot sticker so that nursing staff can identify which file is incomplete.

p-Value Calculation

BASELINE- AFTER 1st TRAINING

		Disease		
		+	-	Total
Exposure	+	232	72	304
	-	319	56	375

RMO Daily signature

p-value(2 tail)= 0.0037

		Disease		
		+	-	Total
Exposure	+	238	66	304
	-	67	7	74

Ward In-charge daily signature

p-value(2 tail)= 0.016

		Disease		
		+	-	Total
Exposure	+	98	193	291
	-	27	43	70

Consultant sign within 24 hrs

p-value(2 tail)=0.4397

		Disease		
		+	-	Total
Exposure	+	114	96	210
	-	38	4	42

Consent (no abbreviations used)

p-value(2 tail)=0.00001

		Disease		
		+	-	Total
Exposure	+	117	91	208
	-	38	4	42

Consent ([Alternatives, Indication, Risk and benefits to be written]

p-value(2 tail)=0.0003

		Disease		
		+	-	Total
Exposure	+	63	148	211
	-	22	20	42

Consent (signature of patient, witness & doctor)

p-value(2 tail)=0.004

		Disease		
		+	_	Total
Exposure	+	71	139	210
	-	35	7	42

Consent (name of procedure/ surgery fill in capital)

p-value(2 tail)=0.000001

BEFORE & AFTER

		Disease		
		+	_	Total
Exposure	+	319	56	375
	-	232	72	304

RMO Daily signature

0.0037

		Disease		
		+	_	Total
Exposure	+	321	54	375
	-	238	66	304

Ward In-charge daily signature

0.013

		Disease		
		+	_	Total
Exposure	+	189	162	315
	-	98	193	291

Consultant sign within 24 hrs

0.0000003

		Disease		
		+	_	Total
Exposure	+	222	14	236
	-	114	96	210

Consent (no abbreviations used)

0.0000003

		Disease		
		+	_	Total
Exposure	+	224	12	236
	-	117	91	208

Consent ([Alternatives, Indication, Risk and benefits to be written]

0.0000001

		Disease		
		+	_	Total
Exposure	+	134	102	236
	-	63	148	211

Consent (signature of patient, witness & doctor)

0.0000001

		Disease		
		+	_	Total
Exposure	+	189	47	236
	-	71	139	210

Consent (name of procedure/ surgery fill in capital)

0.0000001

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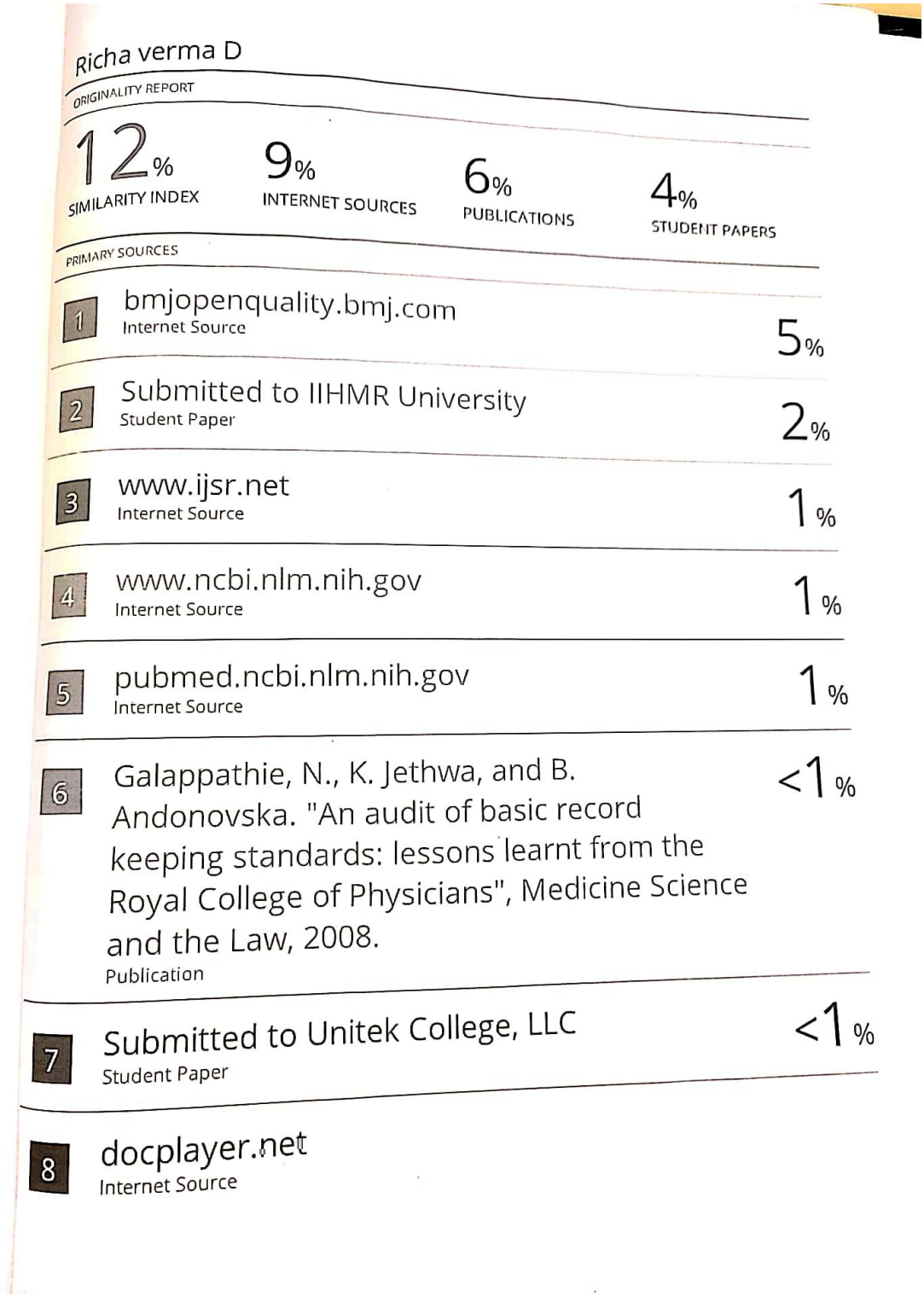

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