

ADDIS ABABA UNIVERSITY
COLLEGE OF HEALTH SCIENCES
SCHOOL OF PUBLIC HEALTH

**COMPLETENESS OF INPATIENT MEDICAL RECORD IN ST.PAUL'S
HOSPITAL MILLENNIUM MEDICAL COLLEGE**

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Declaration

This project report is my original Work and has not been submitted for any award of a Degree in any other university, and all those materials used for the cap stone project has been duly acknowledged

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This capstone project report has been evaluated under my approval as university examiner

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Addis Ababa University date of submission

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Abbreviations

A.A-Addis Ababa

ART-Antiretroviral Therapy

ENT-Ear, Nose, Throat

HIV-Human Immune Deficiency virus

HPMI-Hospital Performance Monitoring Indicators

HMIS-Health Management Information System

ICU-Intensive Care Unit

IPD: -Inpatient Department

I.M.R.C:-Inpatient Medical Record Completeness

KPI-key performance Indicator

KCMC- Kilimanjaro Christian Medical Centre

MHA–Master of Health Care and Hospital Administration

MR-Medical Record

NHPMIM: - National Hospital Performance Monitoring and Improvement Manual

SPHMMC-ST .Paul’s Hospital Millennium Medical College

Abstract

Medical record is an account compiled by physicians and other health professionals of a patient's medical history, present illness, findings on examination, details of treatment and progress notes and it is a legal record of care. The maintenance of complete and accurate medical record is a fundamental duty of health care providers. Complete medical record indicates the quality of patient care provided in the facility. Many ethical and legal issues are implemented in their maintenance including third party access and appropriate storage and disposal.

Objective: To improve the percentage of inpatient medical record completeness from 46.48% to 80% at the end of Jun 2018.

Methods: A pre- post intervention design was used in this project to examine the completion rate of inpatient medical records. The pre-intervention assessment was conducted in the inpatient department of SPHMMC. Base line data were collected in Feb 2018. Based on the baseline, the completeness of inpatient medical records was low, only 46.48% of the 202 audited patient folders was completed. After base line assessment we conducted root cause analysis and identified the real root cause of the problem. Based on the verification, lack of awareness about inpatient medical record completeness, clinical forms not suitable to enter data, absence of monitoring and negligence were identified as a real root causes. We conducted two interventions; one day staff training on importance of inpatient medical record completeness and develop new clinical forms.

Results: the documentation completion rate significantly increased from 46.48% pre-intervention to 78.6% post-intervention, the completeness of three out of the five elements of medical records (physician note, physician order sheet and discharge summary) especially significantly improved

Conclusion: The results of this project suggests that a simple set of intervention providing training on the importance of inpatient medical record and availing suitable inpatient medical record forms improves the inpatient medical record completeness.

Recommendation: Ongoing monitoring and accountability system should be implemented, It is better if the Health Management Information System Department takes special consideration on full implementation and proper management of inpatient medical records, Intensive and continuous training should be given for the healthcare provider by Health Management Information System Department.

Key words: Medical records, Documentation completeness

1. Organizational description

St Paul's General Specialized Hospital was built in the year 1968 G.C, by the late Emperor HaileSilassie with the help of the German Evangelical Church. At the time the hospital was established mainly to serve those economically under privileged population that providing services free of charge up to 75% of its patients. Until 2010, it used to be called St. Paul General Specialized hospital serving as a referral hospital in Addis Ababa under the Ethiopia Federal Ministry of Health (FMOH). In 2007, it started a medical school and through a decree of the council of ministers in 2010, it was established as a medical college and is currently named St Paul Hospital Millennium Medical College. St. Paul's hospital millennium medical college has various professionals that included 479 physicians, 750 nurses, 1172 other clinical staff, and 898 administrative staff, making a total of 3362 staff. The hospital, is a 529 bed capacity hospital and. The 2009 annual average outpatient department attendance was about 314, 687 annual average admissions about 23,516 with an average length of stay of 5 days bed occupancy rate of 71.4%. SPHMMC provides health care through its different clinical departments which are General surgery, Internal Medicine, Obstetrics and Gynecology, Pediatrics, Emergency, Urology, Neurology, Orthopedics, Psychiatry, Ophthalmology, ENT, Dentistry and Maxillofacial surgery, Radiology, Anesthesiology, , ART, (HIV care), Endoscopy, Physiotherapy, Laboratory and pharmacy, kidney dialysis and kidney transplantation. Its core services the medical care teaching & researches are still under the Federal Ministry of Health and governed by the board.

Vision: -To be a medical University with a most sought after medical center and a prestigious academic and research center in Africa by 2025.G.C

Mission :-To contribute to the provision of quality and affordable, promotive, preventive, curative, palliative and rehabilitative health care services; to train competent, compassionate ethical health professionals using integrated and competency based medical education and to perform need based research

2. Back ground of the study

2.1 introductions

One of the major elements improving efficiency in the delivery of health care services is improving completeness of medical record documentation. A well-managed medical record system is critical to improve the provision of quality health services to ensure safe medical practice efficient and effective services and improve the patient experience and satisfaction with their medical encounter (1). Medical record completeness is a key performance indicator that is related with delivery of health care services in the hospital. Complete and accurate medical records are essential to maintain the continuity of patient care and ensure that the health provider has full information about the patient when providing healthcare. The completeness of this medical record is a measure of the quality of care provided at the hospital.(2) Government has strong commitment to improve health care quality. Achievement of quality care service requires addressing the problems that are associated with medical record incompleteness. the aim of this project is to find practical solution for the problem related with inpatient medical record incompleteness .in the inpatient setting some of the important pieces of inpatient documentation include history &physical, progress Notes, orders, procedure reports and discharge summary. According to KPI standard only 5 medical documentations (clinical formats) are essential for medical record completeness. The completeness of this medical record is defined as a proportion of the five minimums elements of an inpatient medical record which are:-

- Patient care(physician notes) –all present and all entries signed
- Physician/health officer order sheet –all present and all entries signed
- Nursing care plan –present and signed
- Medication administration record –present and all medications given are signed.
- Discharge summary—present and signed.

These five items represent the minimum set of documents that should be present and signed in the medical record of every discharged inpatient.

The percentage of completeness of 5 items was used in this study.(2)

2.2. Statement of the problem

.High inpatient medical record incompleteness

Incomplete medical recording is one of a major observed challenges in hospital's medical record management system. Incompleteness of medical records is a sign of significant problems that affects the quality of health care. quality health care data play a vital role in the planning, developments, the maintenance of health care service.(3) the most significant effects of incomplete documentations of inpatient medical records are: - poor quality of care, inaccurate reimbursement that results inaccurate gross revenue to the provider, impossibility of effective operational management could be impeded, lack of legal protections, And also if documentation is incomplete the effectiveness of research activities is significantly impeded. Inpatient medical records in SPHMMC are frequently incomplete. Therefore, conducting the study on MR completeness at inpatient department of SPHMMC is an important issue. Baseline assessments were collected and inpatient medical record completeness showed 46.48% which is low against the standard in which medical record completeness is expected to be 100%.medical record in developing countries including Ethiopia are generally inadequately supported and poorly managed(4)

2.3 Anticipated outcome

This project has a vital role to improve health care quality, patient and staff satisfaction by increasing the percentage of inpatient medical record completeness from 46.48% to 80 % at the end of Jun 2018 by implement best intervention.

2.4 Public health relevance

The public health relevance of this project is improving the provision of quality health care services to ensure safe medical practice, efficient and effective services and improve the patient's experience and satisfaction as well as the public by improving completeness of inpatient medical record

3.ROOT CAUSE ANALYSIS

poor medical records completeness in SPHMMC is caused due to different factors that can be generally classified in four thematic factors: - people, process/policy, equipment and environment

➤ **Method used to identify the root causes**

Discussion with different concerned parties like medical service vice provost, inpatient directors, doctors and nurses who were working in different wards, matron & selected staffs

.3.1 possible root causes

- Nurses Work load because of shortage of human power
- Lack of awareness about inpatient medical record completeness due to lack of training
- Negligence because of lack of accountability and lack of awareness to the importance of accurate clinical documentation.
- Clinical forms are not suitable specially nursing care plan and medication administration sheet :
- Lack of rooms for paper work because of shortage of space
- Absence of monitoring system because there were no assigned personnel's

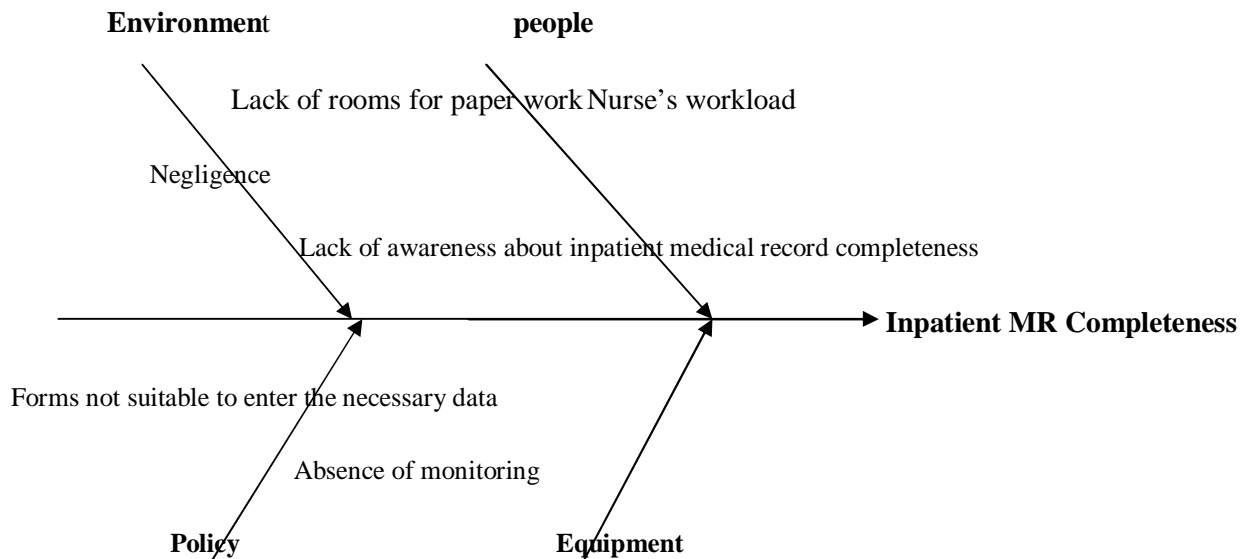


Figure3.1 fish bone diagram (problem; high inpatient medical record incompleteness) Fish bone diagram dose not tell the real cause of the problem it is just display the possible root cause recommended by stake holders so, it needs further analysis

Therefore, discussions were conducted with key stakeholders at SPHMMC, according to which: Data were collected through interview, focus group discussion, and showed the standards in order to verify the root causes that are suggested by concerned parties

3.2 Verification

1. **Nurses work Load:** This was suggested as a root cause of the problem by nurses who are working in different wards but, this cause is excluded from real cause of the problem because, St. Paul's hospital millennium medical college nurses bed side ratio is based on national standard which is for ICU 1:1, for labor ward 2:1 for other wards 1:6 which are also recommended by WHO for developing countries.
2. **Lack of awareness:** this is proved to be a real root cause of the problem because Training has never been given to the staffs who were working in any of the wards at all, related to inpatient medical record completeness, medical record as a hospital reform and medical record as key performance indicator.
3. **Absence of monitoring:** this is proved to be real cause of the problem because there were no any assigned personnel who should check whether each of the components of inpatient medical record is completed and take proper measure at the spot if any problem occurs.
4. **Clinical formats are not suitable to enter all the necessary data:** this is proved to be real cause of poor inpatient medical record completeness, especially medication administration sheet and nursing care plan forms as I observed and compared it with the standard forms developed by FMOH.
5. **Lack of rooms which are suitable to perform paper work:** this is excluded from real cause because, there were enough rooms and spaces in each ward with necessary tables and chairs to perform the recording task as I observed.
6. **Negligence:** this is proved to be a real cause of the problem because each inpatient department staffs knows that the way they have been recording has never met the standard of inpatient medical record according to the surveys carried out in the hospital every three months, but there were nothing done to change and to complete .

3.3 After verification these are identified as real root causes

- Absence of monitoring
- Clinical forms not suitable to enter to all the necessary data.
- Lack of awareness about inpatient medical record completeness, medical record completeness as key performance indicator and hospital reform
- Negligence (fail to take necessary care to complete the data according to the standard)

4 .Literature review

Medical record is an account compiled by physicians and other health professionals of a patient`s medical history, present illness, findings on examination, details of treatment and progress notes and it is a legal record of care. Primary records are the original records established to document the continuation of care given to a beneficiary and three categories for primary records health record, out patient record and inpatient record (4)

A patient`s medical record provides two important functions. The first is, it helps to support direct patient care by acting as an aide memoir for individual doctors by supporting clinical decision-making and providing an important means of communication. The second is, it provides a legal record of care given and acts as a source of data to support clinical audit, research, resource allocation, performance monitoring, epidemiology, and service planning (5) It is important to note at this time that accurate, timely and accessible health care data plays a vital role in the planning, development and maintenance of health care services. The quality of data in the medical record and its availability is essential if health care authorities wish to maintain health care at optimal level.

The main uses of the medical record are:

- to document the course of the patient's illness and treatment;
- to communicate between attending doctors and other health care professionals providing care to the patient;
- for the continuing care of the patient;
- for research of specific diseases and treatment; and
- the collection of health statistics (6)

For example: -

KCMC Hospital is a tertiary referral center for northern Tanzania. It is a large teaching hospital which serves a population of around 11 million. According to the hospital annual report published in 2014 the top disease for the orthopedic department was 'Fracture of femur' with 271 cases. The top killer disease was 'Cervical injuries'. There were a total of 1415 admissions from January 2014 to December 2014. A total of 1102 procedures were documented and the most common procedure documented was 'Surgical toilet'. All of this information was taken from a

combination of hospital patient records and the in-house orthopedic inpatient record books. (7) Pre- and post-intervention study was conducted at inpatient departments of Menelik II Referral Hospital. During pre-intervention time, inpatient physician note 96%, physician order sheet, 96% nursing care plan 70%, medication administration sheet 40%, and discharge summary 64% total 73% after simple set of intervention availing inpatient medical record format and training health care provider improves the inpatient medical record completeness from the base line 73% to 84% during post intervention. This project indicates that applying strategic problem solving to medical record completeness can be effective in improving quality of healthcare. (8)

Pre and post intervention study was conducted at inpatient department of Dalefage district hospital the result of base line assessment of inpatient medical record completeness was 0% there were different root causes that are contributed the problem that are:- There is no previous practice, The IPD, staffs had lack of awareness on inpatient medical record completeness,. The IPD did not have policy and procedure, Total absence of important formats in the department .a simple interventions implemented such as: - Implement the KPI 18, Create awareness by providing training Developed facility based guideline and procedure, Avail all important formats. after these simple intervention the completeness of inpatient medical record significantly improve from the base line 0% to 73.6% (9)

A retrospective study was carried out to assess the documentation of 780 paper based health record of inpatients discharged in 2009 at a Nigerian tertiary hospital the conclusion of the study showed there were inadequacies in clinical documentation especially gross underutilization of discharge summary forms .the finding of the study shows that the hospital health care providers possess the necessary skills for quality clinical documentation but lack the will. There is a need to institute clinical documentation improvement program and promote quality clinical documentation among staff.(3)

Pre-post interventional study was conducted to Improving Patient Medical Record Organization in a Hospital Intensive Care Unit in Rwanda by conducted root cause analysis and by implementing best intervention The overall time for physicians to locate clinical information significantly decreased from 348 to 173 seconds (50% decrease, $P=0.029$). The overall time for nurses to locate clinical information decreased by from 79 to 62seconds (22% decrease),

although the change was not statistically significant (P-value =0.195). The COHSAS Accreditation scores for the medical records related standards increased from 47 to 81 (72% increase=0.026(10).

A retrospective review of 155 orthopedic inpatient notes at Kilimanjaro Christian Medical Centre (KCMC) was conducted spanning 3 months. The study shows, Admission information and Demographics were both completed 88% (n=137) of the time. History and the Examination sections were complete in 96 % (n=149) of cases. Investigations were complete in 77 % (n=119) and Diagnosis in 88 % (n=137). The Treatment section was complete 85 % (n=132) of the time and the Attending doctor 50% (n=78). Procedures were 27% (n=42) filled in while Summary of a day and Follow-up were 32% (n=49) and 0% (n=0) respectively. (7)

A prospective study conducted in Netherlands, patients admitted to the general internal medicine ward of two acute care hospitals, shows that the medication history in the hospital medical record is often incomplete, as 26% of the prescription drugs in use is not recorded and 67% of all patients has one or more drugs that are either not registered in the hospital medical record or registered but not in use (12)

) A cross-sectional study that involved interviewing patients and reviewing their clinical records at medical admission ward, at UNIVERSITY TEACHING HOSPITAL , was conducted over a period of 3 months. This study shows that medication histories in clinical records of patients in medical admission ward are poorly documented this means In this study, out of 287 medication histories, 112 (39.1%) were accurate as no discrepancies were noted in medication name, dose, route and frequency of administration but, 61 % were un accurate as discrepancies were noted in medication name ,dose, route and frequency of administration(13)

5. Project Objectives

5.1 General Objective of the study

- To improve the percentage of inpatient medical record completeness from 46.48% to 80% at the end of Jun 2018. This figure is determined based on similar studies reviewed and based on the required time and resources.

5.2 Specific objectives of the study

- To improve staff awareness about inpatient medical record completeness at the end of Jun 2018.
- To validate 100% new clinical forms at the end of Jun 2018.

6. Methods and Materials

6.1. Project area and period

The study was conducted at St. Paul's Hospital Millennium Medical College found in capital city of Ethiopia in Addis Ababa Gulele Sub city Woreda 9 kebele 10/11/12. The study was conducted from Feb 2018 to Jun 2018

6.2 Project design

A pre- post intervention design was used in this project to examine the completion rate of inpatient medical records. The pre-intervention assessment was conducted in the inpatient department of SPHMMC ., base line data were collected in Feb 2018 .based on the baseline, the completeness of inpatient medical records was low .therefore ,an intervention was conducted to improve the completeness.

6.3 source population

All inpatient medical records of patients treated and discharged from SPHMMC

6.4 study population

An individual folder of inpatients treated and discharged from NOV 2018 to JAN 2018 for pre intervention and the month of May 2018 for post intervention.

6.5 sample size determination

The sample size of the survey medical records were taken from the HPMI manual which is 50 as minimum or 5% of the discharged patients medical records to be reviewed based on the protocol to assess the completeness of inpatient medical records For the hospitals like SPHMMC with high patient flow better to use 5% of the discharged patient's medical record as a minimum sample size. Based on the protocol reviewed 202 discharged patients medical record they were discharged from medical, surgical, maxillofacial, gynecology and pediatric departments. During pre-intervention time and 75 discharged patient record during post intervention. Using standardized prepared check list to assess the completeness among from those admitted and discharged patients' medical record

6.6 Sampling technique

Simple random sampling technique was applied. After identifying the sample size randomly select patients from the discharged list of all patients who were discharged from an inpatient ward this information was obtained from Admission/Discharge. The Medical Records of these patients were obtained from the Medical Records Department.

6.7 Data management and analysis

Data collection instrument (check list) adapted from national hospital performance monitoring and improvement manual survey protocol used by the hospital. After the appropriate number of medical records has been reviewed collected all completed Medical Record Review and put together for Processing and analyzed by SPSS (IBM statistic) and the result of inpatient medical record completeness displays in percent by Table and Graph.

6.8 Data quality management

The data collection team was oriented on the checklist that use for data collection and the way to collect data and the data quality was check during data collection process by assigned supervisor.

6.9 Study Variables

6.9.1 Dependent variable: the completeness of the five indicators.

6.9.2 Independent variables: availability of human resource, availability of necessary clinical forms, staff willingness and commitment, staff awareness.

6.10. Ethical consideration

Written consent was obtained from the hospital administrative office to conduct study on inpatient medical record completeness. Measures were taken to ensure strict confidentiality. Clinical records were handling within the hospital premises and in line with hospital regulations.

6.11 Plan for dissemination

The findings of this study will be disseminated to local and external partners including SPHMMC, A.A University and any other concerned bodies

6.12 Operational definition

6.12.1 Completeness of medical record: define as proportion of the five minimum elements of an inpatient medical record

6.12.2: complete in patient medical records: are essential clinical formats used for inpatient care which includes: patient card sheet, physician note, nursing care plan sheet, medication administration sheet and discharge summary sheet

7. Develop Alternative intervention

1. Assign personnel's to control completeness for each ward
2. Conducting onsite training
3. Develop clinical format(change the existing formats)

7.1 Comparative analysis of alternative

Alternative strategies are compared using the decision matrix tool as follows.

Decision Matrix Quantities

	Evaluation criteria 5=very high; 4=high ;3=moderately high;1=low				
Strategic alternative	Impact	Feasibility	Cost	Time	Total
onsite training	5	5	4	5	19
develop new clinical forms	5	5	4	4	18
Assign personnel's for each ward	5	3	4	3	15

➤ ONSITE TRAINING

Impact; majority staff doesn't know about what is medical record completeness, what are the necessary clinical forms should present in all inpatient folder. So, training is needed to improve their knowledge and skill, increase their performance and efficiency and also according to EHIRG all employees need onsite training in every year he/she will do all activities required to meet the standard.

FEASIBILITY ; this is feasible because the training was provided for the staff at their own premises which did not require much time and money in addition ,the training was given by local staff which minimize time and financial costs rather than bringing trainer from outside.

COST;the cost of this intervention was low and could be afforded by the hospital as mentioned above the training was given within the organization.

TIME; this intervention needed a one day training for each group and was implemented within the implementation period.

- **Develop new clinical forms (modify the existing medication administration and nursing care formats)**

IMPACT; studies have shown the importance of convenient working materials make employee work smooth and improve their work interest. And also the hospital has to use standard clinical forms developed by FMOH

FEASIBILITY; this intervention is feasible because all members of the management team supported the intervention and also there was a pre-prepared format which is standardized. Moreover, the hospital has its own printing enterprise, thus it was cost-effective and took less time.

COST; the cost of this intervention was low because of the reasons mentioned above.

Time; this intervention needed few weeks and could be implemented within the implementation period.

- **Assign personnel's to monitor the work**

Impact; assigning personnel who are responsible to follow the completeness of each recording of nurses and physicians is important because if there is monitoring, employee's negligence will decrease and they will take it as their routine activity so as to increase their performance and motivate to do their work.

Feasibility; it requires additional human resources who did not have another responsibility. In order to have the required professional, the organization needed a budget. Assignment of the required budget is the mandate of another government authority.

Cost; recruitment process required much time and cost.

Time; not possible to implement it within the implementation period.

7.2 Selected intervention (Best Intervention)

Based on the result of comparative analysis, the best strategies were

- Onsite training
- Modify medication administration sheet and nursing care plane formats.

7.3 Implementation

The following interventions implemented in the hospital:

- **Onsite training**:-Onsite training was given at April last, 2018 for Inpatient Healthcare Worker (Physician and Nurse) training given by local staff (health management information system department staff) and training for physician and nursing staff consists of the following topic
 - (i) Awareness and sensitization creation on the importance of medical records.
 - (ii) Medical record as part of hospital reform.
 - (iii) Medical record as part of hospital key performance indicator for quality of care

During intervention implementation the main focus was to provide training for the selected inpatient healthcare worker (physician and nurses) for 50 nurses and 20 physicians a total of 70 health care providers for one day for each group on the above topic.

Avail New Medical Record Format: - all clinical contact should be documented in the Medical Record using a hospital standardize medical record format. Samples of all Medical Record Forms, including Investigation Order and Report Forms, Medication Administration Record etc, are presented in Appendix B of Chapter 6 Medical Records Management under EHSTG volume 1. So, the second implementation is changed existing clinical formats into the national standard format. The overall implementation was lasted from April up to Jun 1 for two months duration.

Indicators

Process indicator

- Number of physician and nurses trained.
- Availability of new clinical formats

Outcome indicator

- % of inpatient medical record completed
- % of available new clinical formats

8. Results

The intervention showed a significant improvement in the completion of inpatient medical records in SPHMMC. Providing onsite training and availing new clinical formats was the key contributor to the success of this project. Before our intervention, nurses and physicians were not aware about inpatient medical record completeness and the existing medication administration and nursing care plan forms were not suitable to record all clinical history of the patients. During the baseline assessment, we found that documentation elements under the responsibility of nurses and physicians had the lowest completion rates. Therefore, designed the intervention with a strong focus on nurses and physicians. As a result, nurses and physicians were showed strong commitment for completing all clinical processes and documentations related to patients assigned to their care; this directly led to the improvement in the completion rate of documentation the success of the intervention was because of many factors. The intervention was simple, effective and utilized resources that were available without generating additional costs to the hospital. By following the strategic problem-solving approach, we were able to focus our efforts and resources on a problem that could be solved within our power. By identifying the root causes using data and evidence systematically were able to create an intervention that was relevant and effective aligned with the hospital's priorities. That embraced teamwork and team spirit, which was not only good for the project but also good for the hospital. In general an enhancement of completeness and reporting of inpatient medical record completeness improved significantly in each department.

Inpatient medical record completeness in each department during pre intervention

Clinical format	medical	Surgical	Pediatric	maxillofacial	Gynecology	TOTAL
Physician note	29.6%	50%	50%	53.85%	48%	43.8%
Physician order	64.3%	59%	37.5%	38.46%	48.7%	54.7%
Nursing care plan	24%	35.6%	37.5%	34.62%	32.5%	32.5%
Medication administration	31%	32.3%	0%	42.3%	19%	24.6%
Discharge summary	74%	81.2%	75%	76%	69.3%	76%

TOTAL	38.7	49.78	40	51.24	41.7	46.48%
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Inpatient medical record completeness in each department during post intervention

Clinical format	medical	Surgical	Pediatric	maxillofacial	Gynecology	TOTAL
Physician note	100%	100%	85.7%	100%	95%	96%
Physician order	85%	87%	92.9%	100%	80%	89%
Nursing care plan	14.3%	39.1%	64.3%	100%	65%	57.3%
Medication administration	42.9%	21.7%	35.7%	90.9%	75%	54.7
Discharge summary	100%	100%	100%	100%	90%	96%
TOTAL	68.44 %	69.56 %	75.72%	98.18%	81%	78.6%

The result of each department showed significant change especially maxillofacial, gynecology and pediatric department, improve inpatient medical record completeness from 51.24% to 98.18% from 41.7% to 81% and from 40% to 75.72% respectively which are showed the willingness and commitment of health care providers (nurses and physicians) were working in the above departments. In the other hand medical and surgical departments showed low improvement in related with the above departments specially nursing care plan sheet and medication administration sheet this showed nurses were working in the above departments had less commitment and they need close supervision .

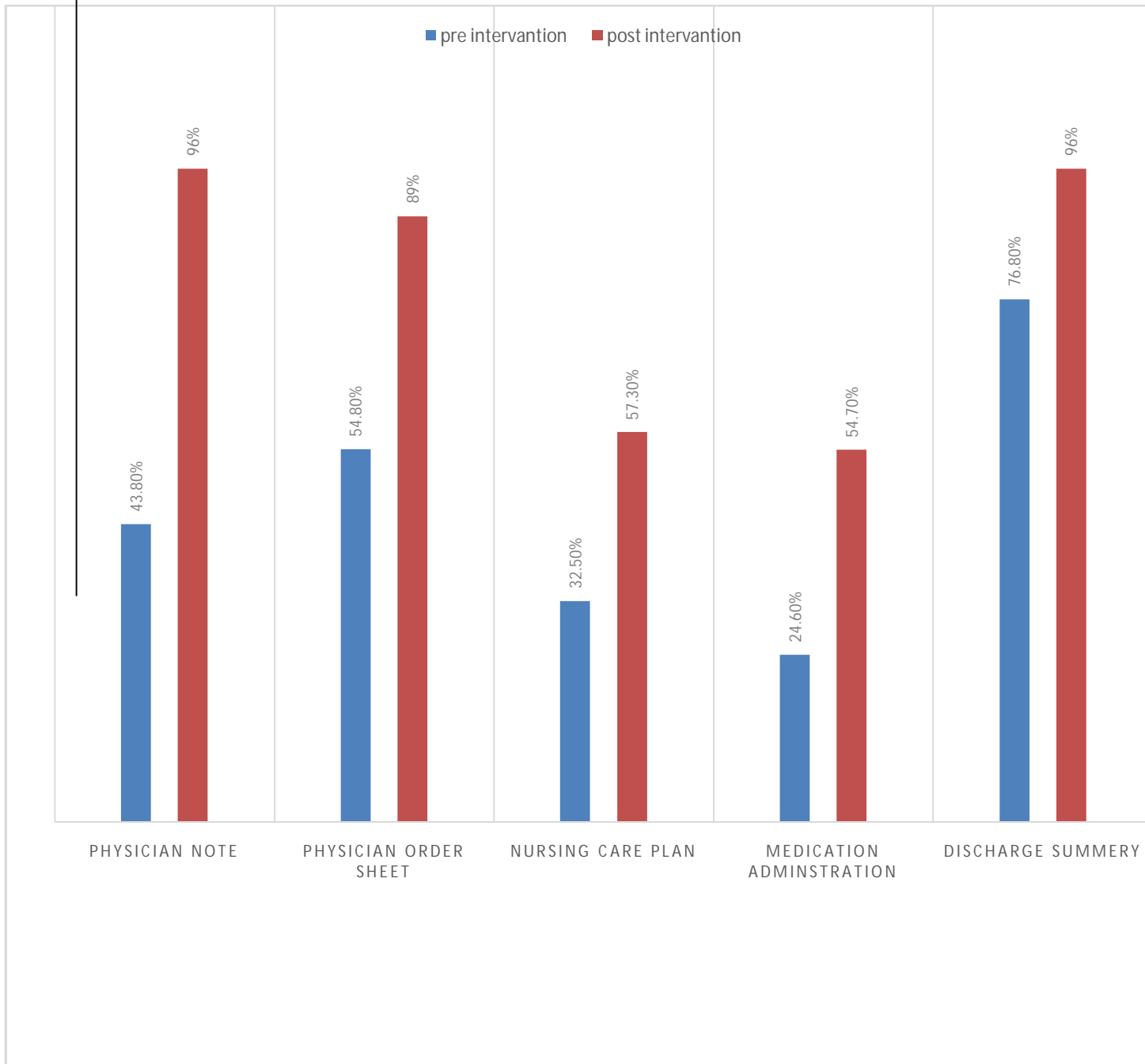
The baseline 46.48% to 78.6% during post intervention evaluation the completeness of medical records was assessed in terms of physician note, physician order sheet, nursing care plan, medication administration sheet, and discharge summary. Accordingly, the total result showed that physician note format was attached during pre-intervention for 190 (94%) and completed for 89 (43.8%) post intervention 73 (97.3%) and completed for 72 (96%), physician order sheet was attached during pre-intervention for 198 (98%) and completed 111 (54.9%) post intervention 69 (92%) and completed for 67 (89.3%), nursing care plan was attached during pre-intervention for 160 (79.2%) and completed 66 (32.5%) post intervention 48 (64%) and completed for 43 (57.3%), medication administration format was attached during pre-intervention for 193 (95.5%) and completed 50 (24.6%) post intervention 48 (64%) and completed for 43 (57.3%), discharge

summary was attached during pre-intervention for 156(76.8%) and completed 156(76.8%)post intervention 73(97.3%) and completed for 72 (96%) .There is prepared new clinical formats and three of them were completed by physician (inpatient physician notes, physician order sheet, and discharge summary) and two of them completed by nurses (nursing care plan and medication administration sheet).

Pre and post intervention changes in medical records completeness inSPHMMC.

Activities	pre intervention	Post intervention	Variation
Inpatient Physician note	43.8%	96%	52.2%
Physician order	54.7%	89%	34.3%
Nursing care plan	32.5%	57.3%	24.8%
Medication administration record	24.6%	54.7%	30.1%
Discharge summery	76.8%	96%	19.2%
Total	46.48%	78.6%	32.12%

Figure 2; Show the achievement in specific indicators in medical records completeness in SPHMMC.



9. Discussion

This study showed that the inpatient physician note had high rate of completeness as 96% in SPHMMC whereas, the study conducted in Menelik II Referral Hospital the post intervention change of inpatient physician note was 92%(8) so, the study in SPHMMC shows higher rate of inpatient physician note completed. The same study in SPHMMC showed the discharge summary completed as 96 % whereas the study in Dalefage Hospital, on the other hand showed the discharge summary completed as 74 %.(9) And another study conducted in Menelik II Hospital (8) showed discharge summary were completed as 87 %.Aspects of physician order in this study 85 % of inpatient medical record is completed whereas, the study done in Dalefage Hospital the post intervention change showed the physician order completed 84% Still the study in our hospital showed higher rate of completeness than the study in the two hospitals. Whereas the higher rate of non- completeness seen in inpatient medication administration record and nursing care plan record 55% and 65 % only completed respectively compared with the study conducted Menelik II Hospital showed medication administration record and nursing care plan were completed 76.6 % and 70.3% respectively .And also study conducted muniniHospital a district hospital in the Southern Province ofRwanda medication administration record and nursing care plan record were completed(4) 87% and 81% respectively. Even though, the result showed higher completeness than the study conducted Dalefage hospital medication administration was completed 20%,in line with this, in our study there is also significant improvement in inpatient medical record completeness which implies giving due attention to medical records and applying simple set of intervention can bring changes .(9)The study done in Dalefage Primary Hospital, West Afar,Ethiopia, shows that an enhancement of completeness and reporting of inpatient medical record completeness improved significantly from the baseline 0% to 73.6% during post intervention evaluation. Similar to Menelik II Hospital after introduction of simple intervention inpatient medical record completeness improves from the baseline 73% to 84% during post intervention evaluation this implies that, by implementing a set of intervention, it can bring improvement in completeness of medical records

10. Project strengths

Without the support from hospital leadership, the project would not have been successful. Gained the support from the hospital senior management team at the early stages when presented baseline assessment results. Staff participation was also very interesting. They were involved in the root cause analysis all the way through implementation and evaluation. The project also created opportunity for the staff to gain knowledge and develop new skills. The staff learned about the strategic problem-solving approach, by building their capacity. This project also enabled them to initiate new quality improvement projects in the future. The utilization of pre-determined standardized sample size and data collection tools avoids the problem related to sample and content of the study. The study was simple and cost effective not requires sophisticated technology and specialized personnel.

11. Limitations of the project

Although the results showed positive changes, encountered several challenges during the implementation process. Members of the management team were busy; finding time in their busy schedule was a constant challenge. Despite the improvement in medical records completeness, the project has some limitations. The sustainability of the project will depend on a long-term follow-up. The post-evaluation period was relatively short. A longer evaluation period is necessary to ensure the change detected was not an isolated incident. Additionally, our intervention only focused on some real root causes of the problem because of lack of resource and time.

12. Conclusion

The overall inpatient medical record completeness in SPHMMC was 78.6% and the higher rate of completeness was seen in discharge summary sheet and physician note both were 96% completed whereas the least completed was inpatient medication administration sheet 54.7 % completed. The finding of this project suggests that a simple set of intervention availing appropriate inpatient medical record format and training healthcare provider improves the inpatient medical record completeness. The project conducted inpatient medical record has the potential to directly influence and improve clinical practice in this Hospital. Recommendations have been made to improve future record keeping. However it will only be once a culture increased priority of record keeping develops that changes will be fully appreciated. It is also vital that monitor and provide regular training to the professionals in order to sustain the change. This project indicates that applying strategic problem solving to medical record completeness can be effective in improving quality of healthcare.

13. Recommendation

This project was conducted to improve the inpatient medical record completeness in the SPHMMC. By applying the strategic problem-solving approach, implemented a cost effective intervention that successfully improved the documentation completion rate without additional financial cost to the hospital. Ongoing monitoring and accountability system should be implement, The hospital should adopt the use of strategic problem solving approach in other quality improvement projects, It is better if the Health Management Information System Department takes special consideration on full implementation and proper management of inpatient medical records, Intensive and continuous training should be given for the healthcare provider by responsible body. (Health Management Information system Department)

Appendix

1. Complete Medical Record Review Form
2. Written consent
3. Medication administration sheet and nursing care plan sheet which are newly developed

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Medical Record Review Form

Medical record number _____

Date patient discharged from hospital _____

Ward _____

In patient Medical Record checklist

S. No	Section	Yes	No
1	Patient Care (Physician Note)		
	Is this present		
	Are all entities dated and signed		
2	Physician/ HO Order sheet		
	Is this present		
	Are all entities dated and signed		
3	Nursing Care Plan		
	Is this present		
	Are all entities dated and signed		
4	Medication Administration Record		
	Is this present		
	Are all entities dated and signed		
5	Discharge Summary		
	Is this present		
	Are all entities dated and signed		
	Total number of "Yes" and "No" Checks		

Medical Record reviewed by: _____

Name of reviewer: _____

Date of review: _____

St.P/H/M/N/C Printing Press

ለካርድ ክፍል


ቅ/ጳ/ሆ/ሚ/ሜ/ኮሌጅ፡

ጉዳዩ፡- የትብብር ደብዳቤን ይመለከታል፡

ኮሌጁ በሰጠው ነፃ የትምህርት ዕድል በአ. አበባ ዩኒቨርሲቲ በማስተርስ ነጭግራም እየተማሩ የሚገኙት የኮሌጁትን ባልደረባ ወ/ሪት ፍፁም ጌታሁን የትምህርት ጥናታቸውን ተኝተው በሚታከሙ ሕሙማን (Study on completeness of in patient medical records in St. paul's hospital millennium medical college) በሚል ርዕስ መሆኑን ገልፀው ካርድ እንዲያዩ እንዲፈቀድላቸው በ1/5/2010 ዓ.ም. አመልክተዋል፡፡

ስለሆነም የኮሌጁ አባል መሆናቸው ታውቆ ለጥናታቸው አስፈላጊ የሆኑትን ካርዶች እንዲጠቀሙ አሳስባለሁ፡፡

ለጤናችን በጋራ እንሥራ


ዶ/ር ብርሃኑ ገብረ
የሚናገሩ ስርዓት ም/ፕሮጀክት

