

Ensuring Compliance of Operation Theatre Complex as per
National Accreditation Board for Hospital and Healthcare
Providers Standards

By

Zubeda Hasan

*Dissertation submitted for the partial fulfillment of the
MBA Hospital and Health Management*

Academic year, 2016-2018



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TO WHOMSOEVER MAY CONCERN

This is to certify that Dr. Zubeda Hasan, student of MBA Hospital and Health Management, from The IIHMR University, Jaipur has undergone internship training at Max Super Specialty Hospital, Shalimar Bagh, New Delhi from 1st Feb, 2018 to 30th April, 2018.

The Candidate has successfully carried out the study designated to her during internship training and her approach to the study has been sincere, scientific and analytical.

The Internship is in fulfillment of the course requirements.

I wish her all success in all his future endeavors.

Col (Dr.) Ashok Kaushik

Dean, Academics and Student Affairs

The IIHMR University, Jaipur

Charu Mathur

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04th May 2018

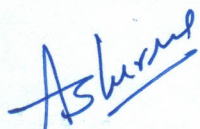
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New Delhi

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Dr. Zubeda Hasan** has completed her project on "Ensuring compliance of operation theatre complex as per NABH standards" in Max Super Specialty Hospital, Shalimar Bagh from 01st February' 2018 to 30th April' 2018 in the department of "Medical Administration".

We wish her all the success in her future endeavors

Yours sincerely,



Alok Sharma
Manager - Human Resources



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CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled “ Ensuring Compliance Of Operation Theatre Complex As Per National Accreditation Board For Hospitals And Healthcare Providers Standards” and submitted by Dr.Zubeda Hasan, Enrollment No IIHMR-U/01/2016-18/0517, under the supervision of Dr. Charu Mathur for award of MBA in Hospital and Health Management carried out during the period from 1st Feb,2018 to 30th April,2018. Embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other institute or other similar institution of higher learning.



Signature

ABSTRACT

TITLE:Ensuring compliance of operation theatre complex as per National Accreditation Board for Hospitals and Healthcare providers standards.

BACKGROUND:

Operation theatre complex is a revenue generating department as well as costly to operate. It is necessity to ensure that it is utilized efficiently which requires efforts and proper coordination amongst doctors, paramedical and non-paramedical staff along with department of billing, sterile equipment supply. There are various standards as per NABH to operationalize OT to provide excellence of services and ensure patient safety.

OBJECTIVE: This study has been conducted with the objective of reducing avoidable cancellations and delay of scheduled surgical cases, increase utilization of OT, ensuring compliance of in patient files, proper maintenance of records and registers.

METHODS: A prospective analytical study, conducted over a period of three months duration from February to April 2018. In this study, instruments used are CPRS audit checklist, Surgical Safety Audit Checklist, Staff Awareness Audit Checklist, Daily data on status and delay of OT. Primary and secondary data was collected from CPRS, hospital records. Sample size included all the scheduled cases of OT in the above mentioned period. Quantitative analysis of collected data on number of cases within time, delayed, add ons, cancelled and of CPRS audit checklist, surgical safety audit checklist using Microsoft excel was done. Qualitative analysis of staff awareness audit.

FINDINGS: The data analysis showed major cause of cancellation to be patient did not turn up with prior OT booking in March 45% which declined to 33% in April with following up cancelled cases, 25% cases got cancelled due to fitness issue. Enhanced utilization of OT -1, 4, 5, 6 and CS OT, Day care OT in April than March observed along with increase in number of cases in all except OT 3. On comparing with March, in April average TAT decreased in OT3, OT 5, OT 7, CS OT. Remained unchanged in Day care OT.

A slight increase in OT 1 and OT 2 observed. TAT compliance improved in all except OT-1 and OT-3. Compliance of initial assessment improved to 89% in April, VTE prophylaxis documentation to 93.93%, OT notes by performing team to 100%, transfer notes compliance significantly improved from 22.72% to 69%, allergy assessment from 70% in February to 81% in April. Compliance of pain assessment and estimated blood loss by surgeons was found to be 0%. Surgical safety audit analysis revealed compliance of site marked on patient 58.3%, side marked on patient 100%, Site marking documented 85.1%, Antibiotic prophylaxis documentation : 80%, WHO surgical safety checklist compliance of sign In 92%, time out 88%, sign out 98%. Compliance of date 88% and time 60% in consent form. Blood loss documentation in anesthesia record 30.61%, in surgical safety checklist 98%. In anesthesia record documentation of induction time 100%, incision time 97.9%, shifting time 84% and pre op checklist completion seen in 84 % files.

RECOMMENDATIONS: Continuous efforts of reinforcement on adherence to standard protocols. Behavior change communication to ensure implementation of standard practices.

Training of staff on awareness and importance of documentation, quality indicators of OT.

Proper coordination and communication between various surgeons, anesthetists, departmental coordinators, billing desk, front office, nursing staff and technicians.

Frequent audits and timely meetings to monitor and review utilization and compliance of OT.

ACKNOWLEDGEMENT

**“Sometimes our light goes out
But is blown into flames by another human being
Each of us owe deepest thanks
To those who have rekindled this light”**

Acknowledgement is the most difficult part of the entire project as unfortunately these pages allow me to name just a few, who have contributed in one way or another to this project, which leads me to a proverbial tip of the iceberg. This work is a synergetic product of many minds.

I would especially like to express my appreciation to **Prof.Dr.Charu Mathur (IIHMR UNIVERSITY)**, my mentor, for his guidance throughout. I would like to sincerely thank **Dr. Rohit Jaiswal (HOD of Anaesthesia)** of Max Super Specialty Hospital , Shalimar Bagh, New Delhi to direct me to complete this project. I acknowledge the help and cooperation received from all the Employees of the operation theatre complex.

Lastly would thank my family to encourage me to do the completion of the thesis

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1.REVIEW OF LITERATURE:

Surgical audit is the study of the structure, process or outcome of surgical care, carried out by those engaged in the activity concerned, to measure whether the set objectives have been attained, and thus, assess the quality of health care delivery(1). It is one of the important components of quality assurance. It needs to be conducted periodically to understand and enhance the functioning of operation theatre complex which is a revenue generating and also, a costly component of any hospital. Thus, it needs to be utilized in the most efficient way possible without compromising patient safety and quality of services.

An audit was conducted in the department of general surgery in Jawaharlal Institute of Postgraduate Medical Education and Research over a period of 12 months to learn utilisation of OT with respect to the starting and closing of the operation theatre, interval between surgical procedures, surgeries cancelled and their various reasons. This study concluded delay in starting lists, under-scheduling, interruption due to emergency surgeries, administrative reasons, induction of anaesthesia and recovery policies were found to be the main factors accounting for inefficient use of operating facilities. The correction of these factors can increase the available operating time by nearly 20% (2).

Proper planning and scheduling of OT cases is one among the key factors to optimize OT utilization. In a study an optimization model was prepared paying special attention to patient flow, timing and resource involvement. It concluded the necessity of standardized process of operation room for the management of a hospital's waiting list. Optimal planning can be facilitated by defining the operation as a standard pathway taking into account various variables, allowing a precise scheduling, shall feed the planning process

and, further up-stream, the management of a waiting list in an interactive and bi-directional dynamic process(3).

Six cornerstones and some best practices were identified by Molly Gamble to add to the efficiency of operating theatres(4).

- Building support among physicians to reduce supply costs

Coordination and cooperation between various surgeons and anesthetists is very essential to support the objective of efficient utilization of OT.

- Blocking time

This basically includes booking OT slots for planned and scheduled cases

- Adjusting block times and releases

Rather than denying surgeons block time based on case profitability, it is recommended that hospitals deploy a more positive strategy and work to attract local surgeons who may bring a potentially lucrative caseload to the hospital.

- Proactively avoiding gaps due to equipment issue

J.D. Waldman, MBA, MD, professor of pediatrics, pathology and decision science with the University of New Mexico, Albuquerque and the author of "Uproot U.S. Healthcare," says queuing theory can help OT managers plan for potential changes in volume, equipment utilization and other OT patterns

- Avoiding tardiness in case time starts (the morning case delays add to delay in the rest of the surgeries for the day). In his research, Alex Macario, MD, a professor with Stanford School of Medicine, found well-functioning OR suites have a cumulative tardiness of less than 45 minutes per every eight hours.
- Controlling turn over times.

With the view to evaluate compliance of WHO surgical safety checklist completion and its barrier for utilization at University of Gondar Hospital, Northwest Ethiopia, a prospective observational study was conducted in 2013. It concluded satisfactory completeness rate but the overall compliance rate of surgical safety checklist was suboptimal. The main reasons cited for non-user were lack of previous training (45.1%) and lack of cooperation among surgical team members (21.6%) (6).

NABH accreditation just doesn't add to the quality of hospital services but also aids in gaining trust, reassuring safe practices and delivery of standardized services to the patients. An observational study conducted at a Tertiary Cancer Centre in Kerala with aim of reviewing planning and functioning of major OT complex to obtain NABH accreditation concluded noncompliance to the minimum essential standards required for NABH accreditation. The difference between staff opinion and assessment against NABH standards was due to the absence of documentations which are mandatory for NABH accreditation but not considered so important by the staff probably due to unawareness (5).

Keeping all this in view, this study was conducted to find out the various non-compliances against NABH standards, to address the delays and gaps leading to wasting of functional hours of OT thereby, enhancing its effective utilization.

2.Project

Objective

- To observe the issues in the functioning of OT followed by their root cause analysis, corrective action and preventive action on routine basis.
- To enhance utilization of OT and quality of patient services for excellent patient experience during hospital stay.
- To ensure compliance of various parameters of OT as per NABH standards.

Problem Statement

As established, OT is a complex structure, revenue generating and an essential department of hospital with its huge interdependence on coordination among department of surgery, anesthesia, laboratory, CSSD, billing. There are numerous causes which result in delay, cancellations, add on in the scheduled OT list disturbing the turn-around time and hampering the quality of services delivered.

Survey Methodology

Quantitative and qualitative method.

Instrument Used : (Attached in the appendix)

- 1.CPRS Audit Checklist
2. Surgical Safety Audit Checklist
3. Staff Awareness Audit Checklist
4. Daily data on status and delay of OT

Sample Design:

All the scheduled surgical cases in the month of February, March and April 2018 were included in this study .

Location – Max Super Specialty hospital, Shalimar Bagh, New Delhi

Period of Study : February'18 to April'18

Inclusion criteria :

- All cases scheduled through telemedicine software for OT 1, OT 2, OT 3, OT 5, OT 6, OT 7, Day care OT, Caesarean section OT from various departments.

Exclusion Criteria:

- Cases posted on Sundays and other holidays as they aren't preplanned.
- Cases posted in OT 4 (cardiac OT) were not included in the study.

Data Collection:

- Primary data collection from CPRS, hospital records, personal observation.
- Secondary data collection through coordinators, technicians, nursing supervisors, nursing educators, infection control nursing staff.

DATA ANALYSIS :

- Quantitative analysis of collected data on number of cases within time, delayed, add on, cancelled using Microsoft excel .
- Quantitative analysis of CPRS audit checklist, surgical safety audit checklist to ensure compliance of documentation and
- Qualitative analysis of staff awareness audit.

OBSERVATIONS

3.Process of Operation Theatre functioning :

There are total 9 OT's in Max, SHBG located in first floor. Functioning from 8AM to 8 PM except for CS OT and day care OT which functioned from 8AM to 5PM. For the emergency cases, 24*7 services are available.

OT 1	Neuro Surgery
OT 2	General Surgery
OT 3	Urology
OT 4	Cardiology
OT 5	Orthopedics
OT 6	Urology
OT 7	Oncology
Day Care OT	For Bronchoscopy, Endoscopy, Ophthalmology
CS OT	Obstetrics and Gynecology

All theatres are properly air conditioned, ventilated, containing hygrometer to ensure maintenance of appropriate temperature and humidity. They are well equipped and staffed.

OT 3 and OT 6 contains Laser technology for the procedures of Urology.

Through telemedicine software, OT technician schedules cases slot wise for each day coordinating with concerned surgeons, anesthetists and departmental coordinators.

Fixed, Non-refundable booking charges are taken from patients in prior to avoid unnecessary cancellations.

The scheduled list is circulated to the concerned departments through intranet mailbox service an evening prior to surgery. This ensures the admitted posted patients receive all the necessary consultations, references, investigated and well prepared for the surgery to avoid any unnecessary delay on the day of surgery. Also aids in ensuring the availability of

uninterrupted supply of sterile equipment, gauzes, gloves and gowns needed as per the planned procedure.

On the morning of surgery, it is cross checked that the patient is fit for surgery along with financial clearance, consent form duly filled and signed with time/on time, parts prepared, chlorhexidine bath given and documented, surgical site marked, and site/side marked is documented in the pre-op checklist by the nurse and/or by the surgeon in the consent form before shifting the patient to pre op area.

Generally, patients for major procedures like hip replacement, Total knee replacement. Exploratory laparotomy, hernioplasty etc are instructed to be admitted a day prior for all pre-op requisites to be fulfilled on time.

Whereas patients posted for day care procedures and minor procedures such as ERCP. EBUS, bronchoscopy, IOL implantation, FESS, laparoscopic cholecystectomy etc are advised to get admitted on the day of surgery in the morning hours as early as possible. They are well counselled about the necessary pre op medications to be taken, precautions and risks of the undergoing procedure , nil per oral to be followed (6 to 8 hours) at the time of giving them appointment for the surgery.

Apart from the elective scheduled cases, emergency cases of caesarean sections, appendicectomy, blunt trauma, head injury etc are also conducted.

Process of patient flow:

- From ward to observation area.
- Observation area to assigned OT.
- Post-surgery, patient is shifted back to observation area.
- Observation area to ward or ICU depending on the patient's condition.

In observation area,

- Pre-operatively patient's identity is confirmed through ID band and in patient file, allergy assessment repeated, in case present, presence of allergy band (red color) is

ensured. Site marking checked, antibiotic prophylaxis administered, patient is taken for the procedure.

- Post operatively, vitals monitored, attendant is allowed to meet once.

4.ANALYSIS

In the month of February, total 410 cases of various departments could be captured and were categorized into cases held within time, delayed, cancelled, add on.

As seen in table 1 below

SNO	Departments	Within Time	Cancelled Cases	Surgery Delays	Add Ons	Total
1	OG	13	6	34	20	73
2	General Surgery	6	19	28	19	72
3	Ortho	18	10	43	7	78
4	Plastic Surgery	2	3	13	0	18
5	Urology	7	7	36	5	55
6	Ophthalmology	1	1	8	0	10
7	ENT	1	4	13	2	20
8	Gastro	0	1	6	0	7
9	Pediatric surgery	2	0	9	2	13
10	Oncology	1	6	18	0	25
11	Pulmonolgy	4	6	5	0	15
12	Neuro Surgery	2	2	7	4	15
13	Vascular Surgery	2	1	2	0	5
14	Others	2	0	2	0	4
Total		61	66	224	59	410

Total within time	61	14.42%
Total cancelled	66	15.60%
Total add ons	59	13.90%
Total surgery delays	224	52.90%

Pie diagram 1(Feb status)



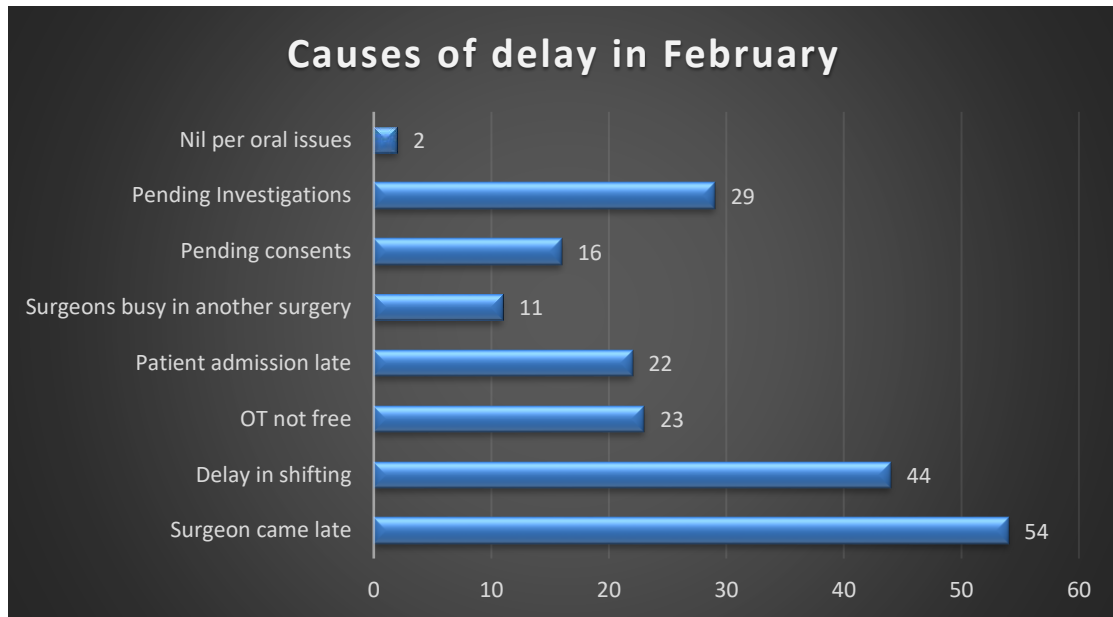
Causes of Delay

Listed below are the various causes of delay. It was found that 8 am cases usually started late than the scheduled time.

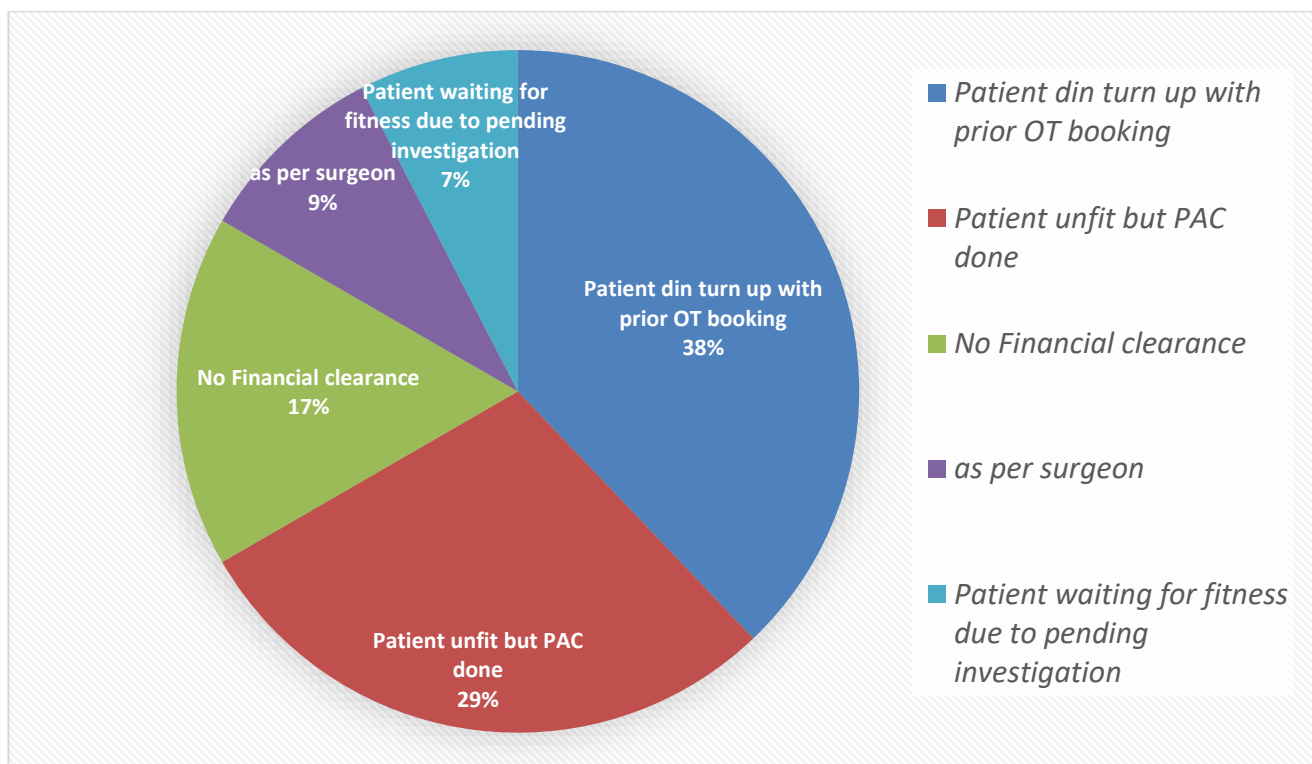
8:00 Am & 8:30 Am Cases	82
8:00 Am & 8:30 Am Cancelled Cases	13
8:00 Am & 8:30 Am Delayed Cases	61

It was found that surgeons came late in 54 cases, busy in another surgery 11, pending investigations and references in 29 cases, pending consents either both or one i.e. anaesthesia consent or surgery consent in 16 cases. Patients admission late in 22 cases, OT not free in 23 cases either because of previous surgery late or some emergency add on case, delay in

shifting from ward in 44 cases, nil per oral issue in 2 cases as seen in bar diagram1

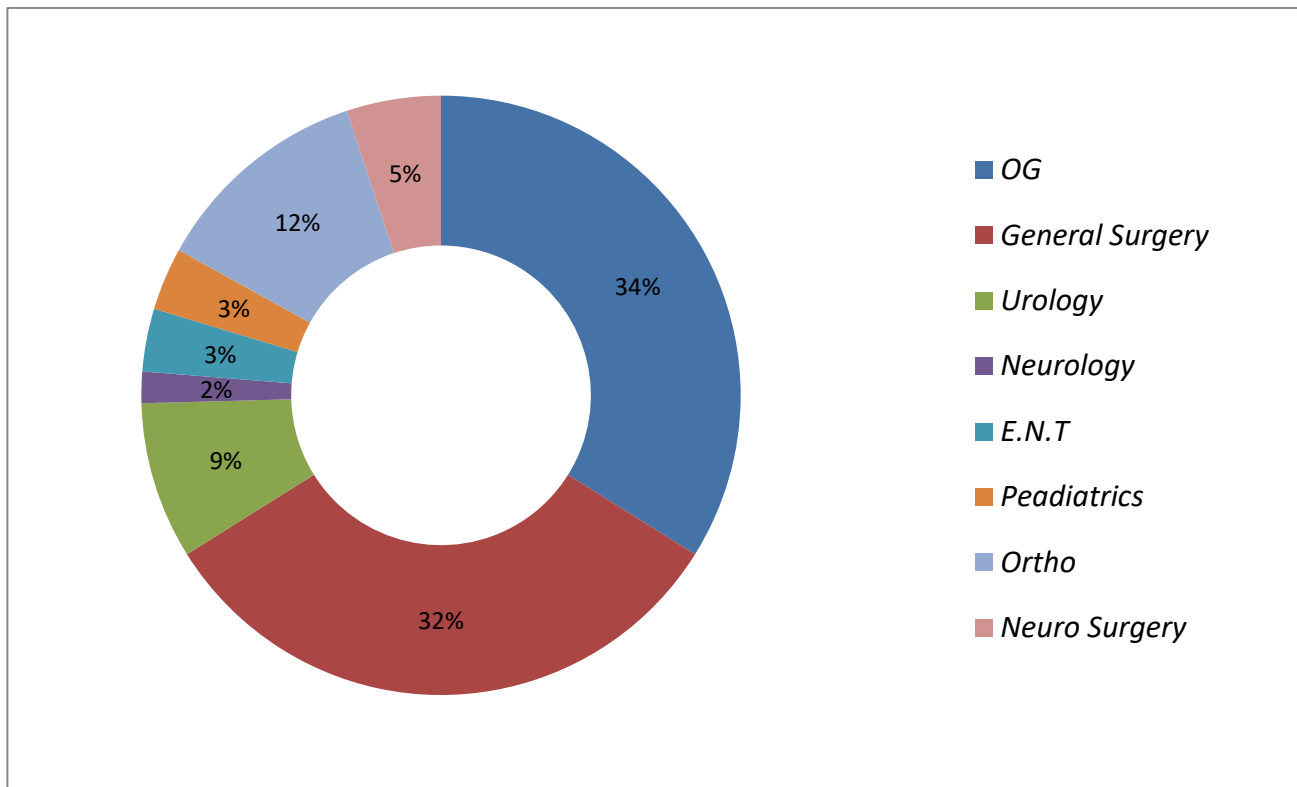


Causes of cancellation (Pie diagram 2)



As found, leading causes of cancellation included patient did not turn up despite of prior OT booking in 38% cases followed by patient found unfit during PAC fitness in 29% cases.

ADD ONS (depicted below in pie diagram 3)

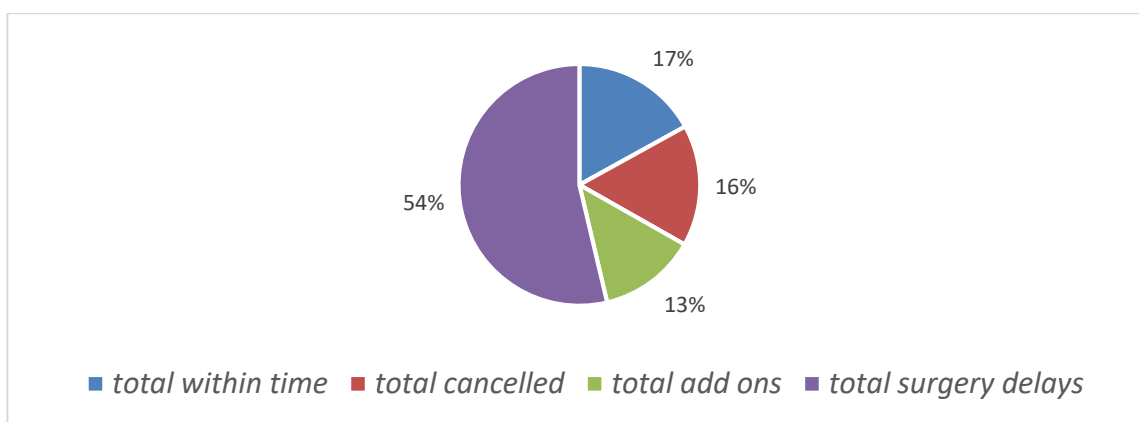


A brief attempt was made to understand add on of various departments, reason behind it i.e if it was really required or not.

34% add on from obstetric and gynecology department, 32% add on from general surgery department were found.

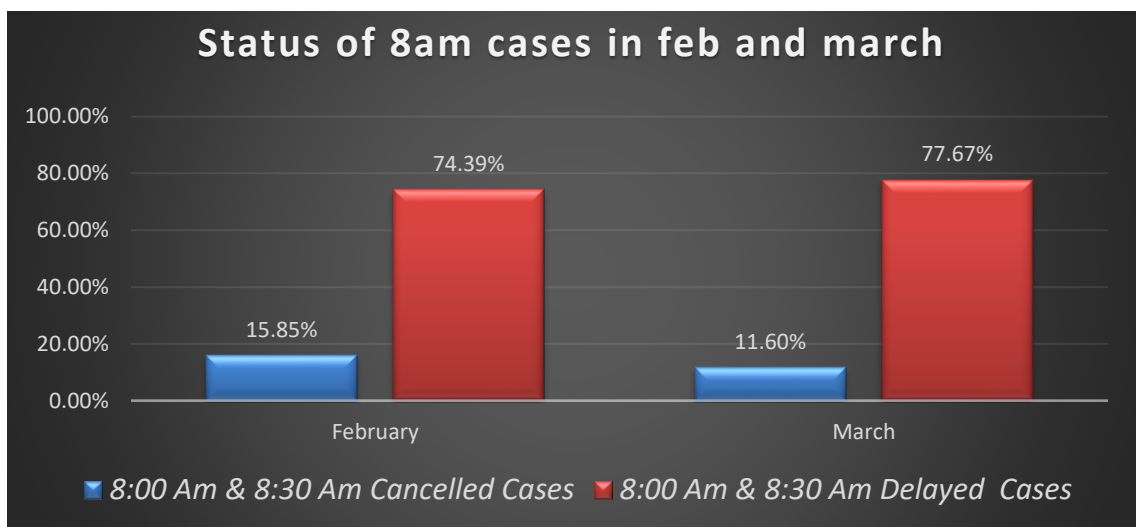
March

In the month of March, 54% surgeries delayed, 16% cancelled. Comparing it to February, drop of 1% in delay and increase of 2% within time cases was found as seen in pie diagram 4 below

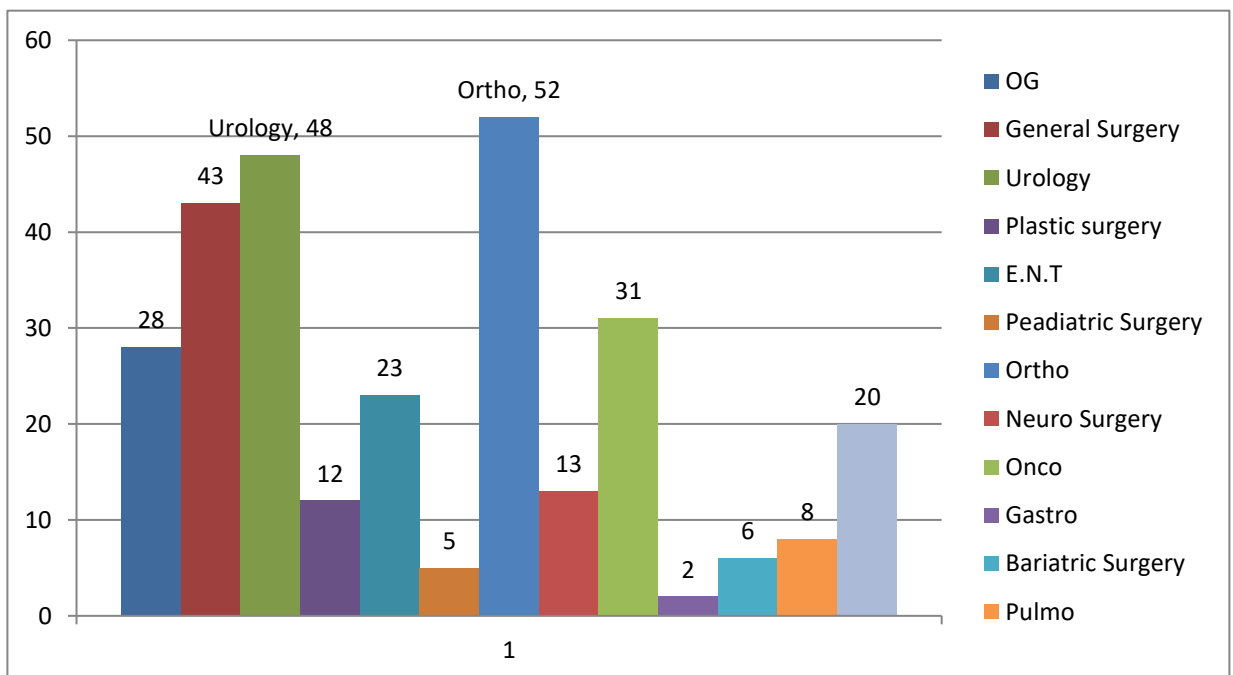


Department wise following 548 cases were captured as seen in table 2 below.

SNO	Departments	Within Time	Cancelled Cases	Surgery Delays	Add Ons	Total
1	OG	8	6	28	24	66
2	General Surgery	16	12	43	17	88
3	Ortho	27	23	52	4	106
4	Plastic Surgery	6	2	12	4	24
5	Urology	18	12	48	10	88
6	Ophthalmoogy	0	7	20	0	27
7	ENT	3	9	23	0	35
8	Gastro	1	2	2	4	9
9	Pediatric Surgery	0	1	5	2	8
10	Oncology	3	7	31	1	42
11	Pulmonology	6	2	8	0	16
12	Neuro Surgery	2	4	13	5	24
13	Vascular Surgery	0	0	0	0	0
14	Bariatric Surgery	2	1	6	0	9
Total		92	88	291	71	542
					NA	6
					Total	548

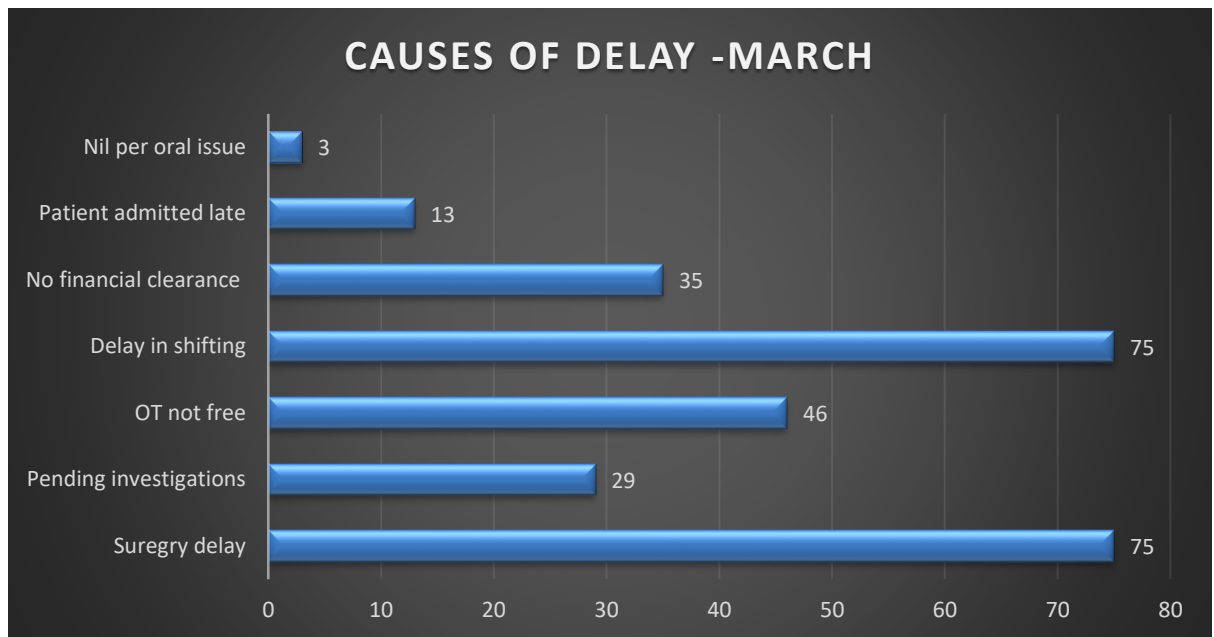


Out of which, maximum delays were observed from the department of orthopaedic and urology as can be seen below in histogram 1

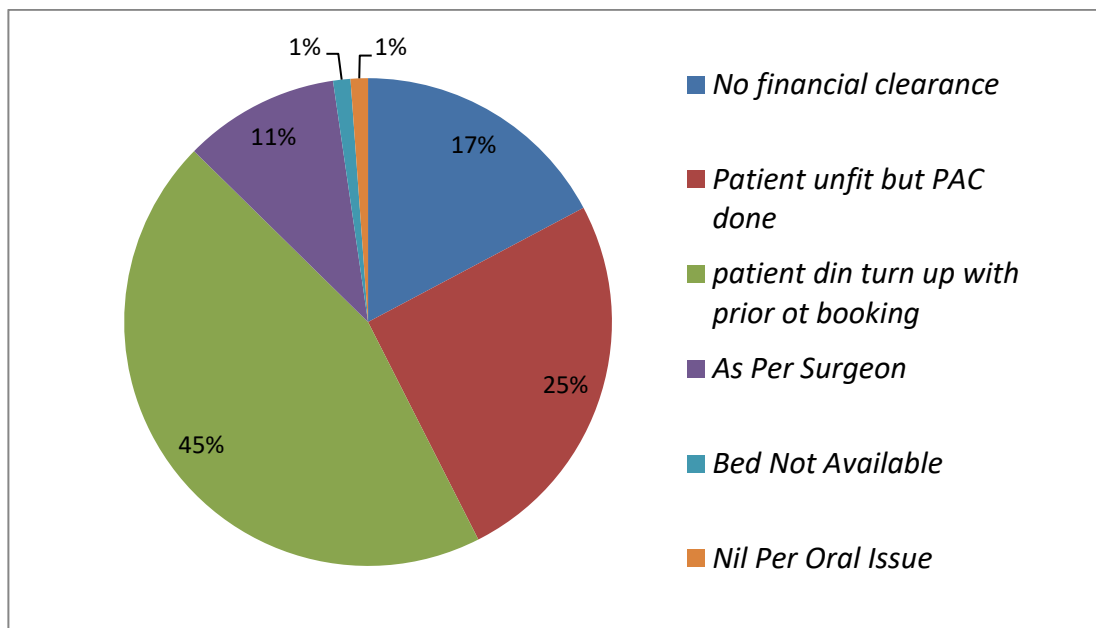


Causes of delay:

Leading cause was found to be surgeon delay and delay in shifting from ward.



Causes of cancellation (as seen in pie diagram 5)



In 45% cases patient did not turn up with prior OT booking, 25% cases got cancelled due to fitness issue.

TURN-AROUND TIME AND IT'S COMPLIANCE OT WISE :

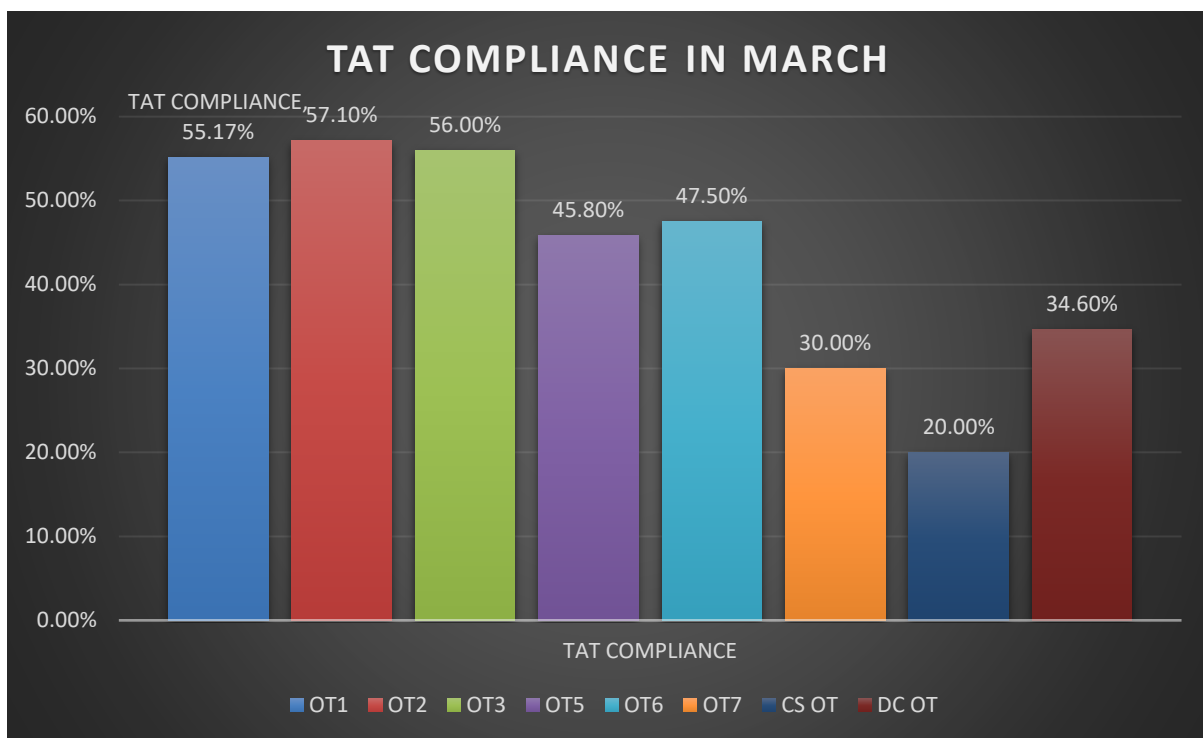
OT wise, turn-around time was analyzed.

Turn-around time is the time difference between out time of a case and in-time of the next case posted in the respective OT.

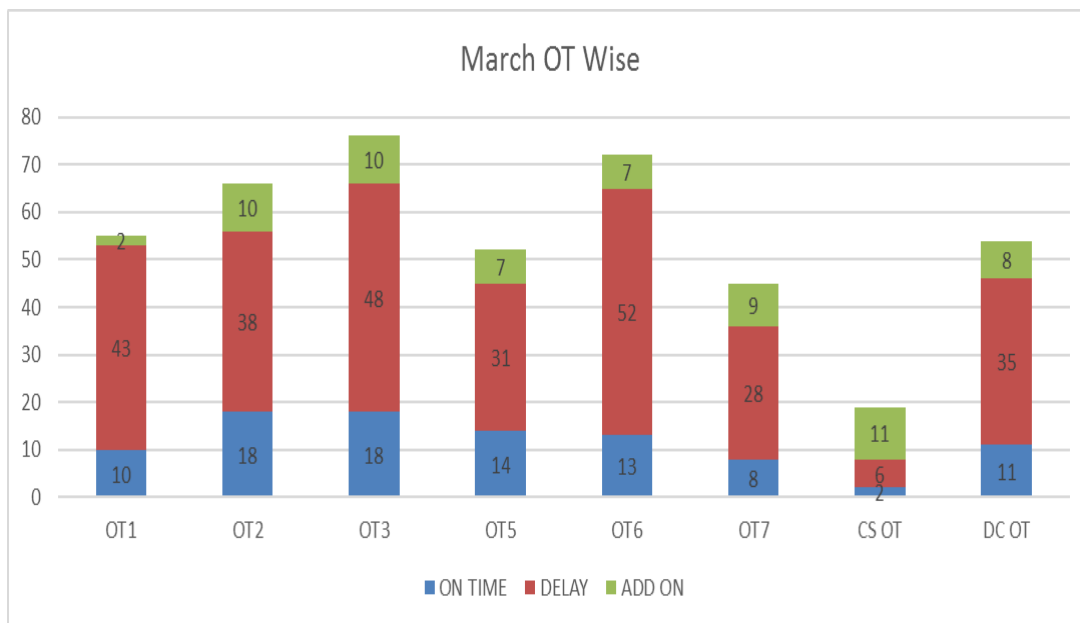
The compliance criteria is a periods 45 minutes between two surgeries.

March	TAT COMPLIANCE	AVERAGE TAT IN HOURS	ON TIME	DELAY	ADD ON
OT1	55.17%	01:06	10	43	2
OT2	57.10%	00:58	18	38	10
OT3	56.00%	01:06	18	48	10
OT5	45.80%	01:19	14	31	7
OT6	47.50%	00:55	13	52	7
OT7	30.00%	01:14	8	28	9
CS OT	20.00%	01:00	2	6	11
DC OT	34.60%	01:09	11	35	8

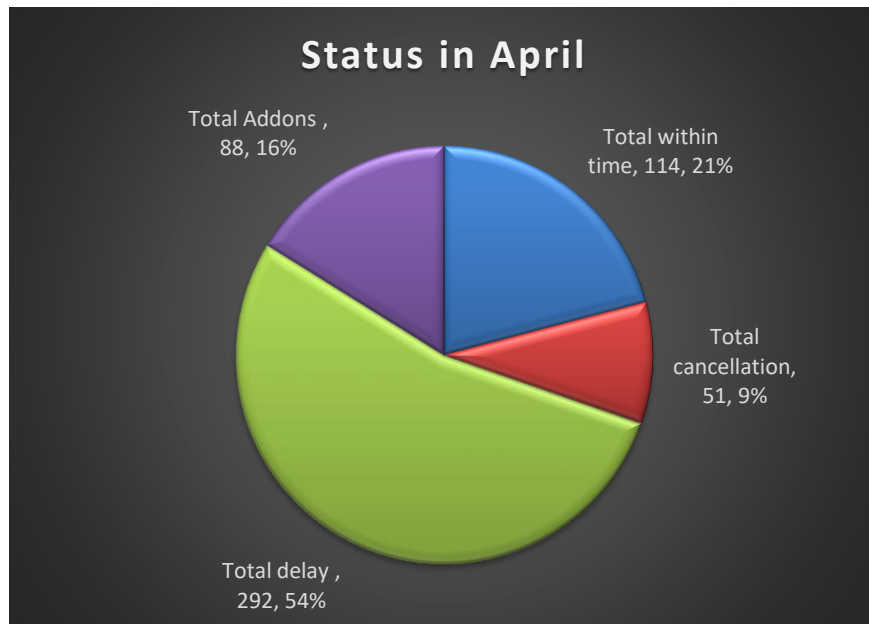
TAT compliance was found to be more than 50% in OT 1, OT 2 and OT 3 as can be seen in bar diagram 2 below



OT wise distribution of delayed, add ons, on time cases(bar diagram 3):

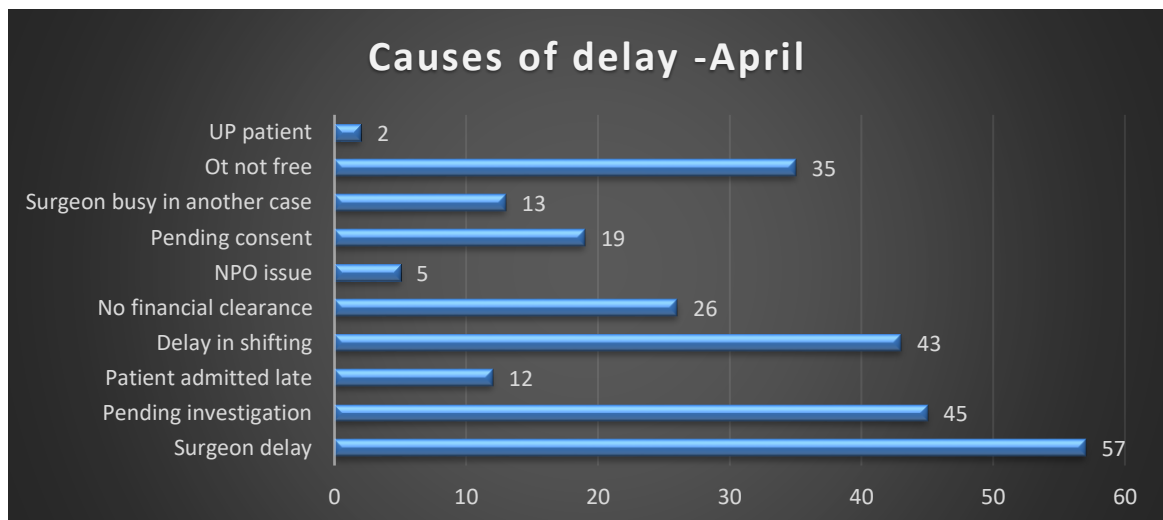


In April, status of 498 cases of various departments captured , 9% total cancellation, 54% delay observed.



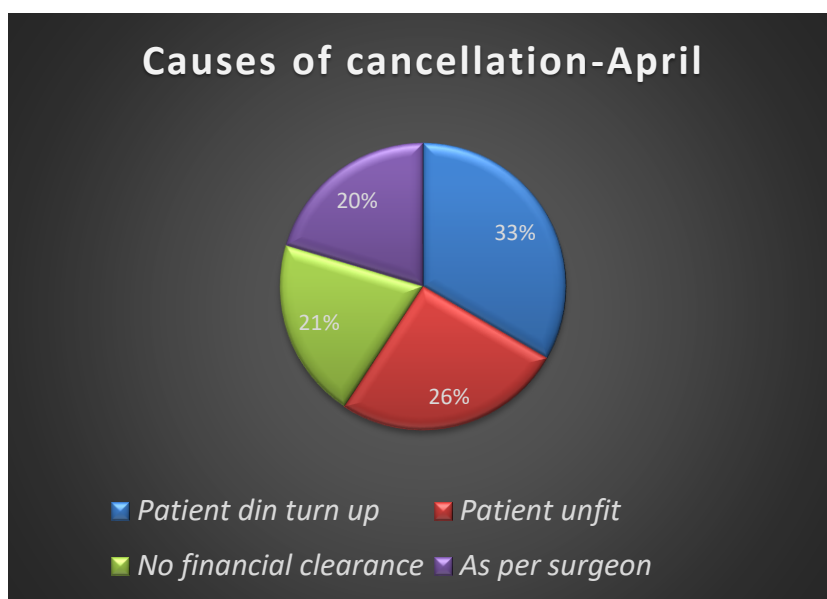
Pie diagram 6

Causes Of delay (bar diagram 3.1)



Surgeon delay observed in 57 cases, 45 cases pending investigation, 43 cases delay in shifting observed, 19 cases delay seen due to consent not signed, OT not free in 35 cases

Causes of Cancellation(pie diagram7)



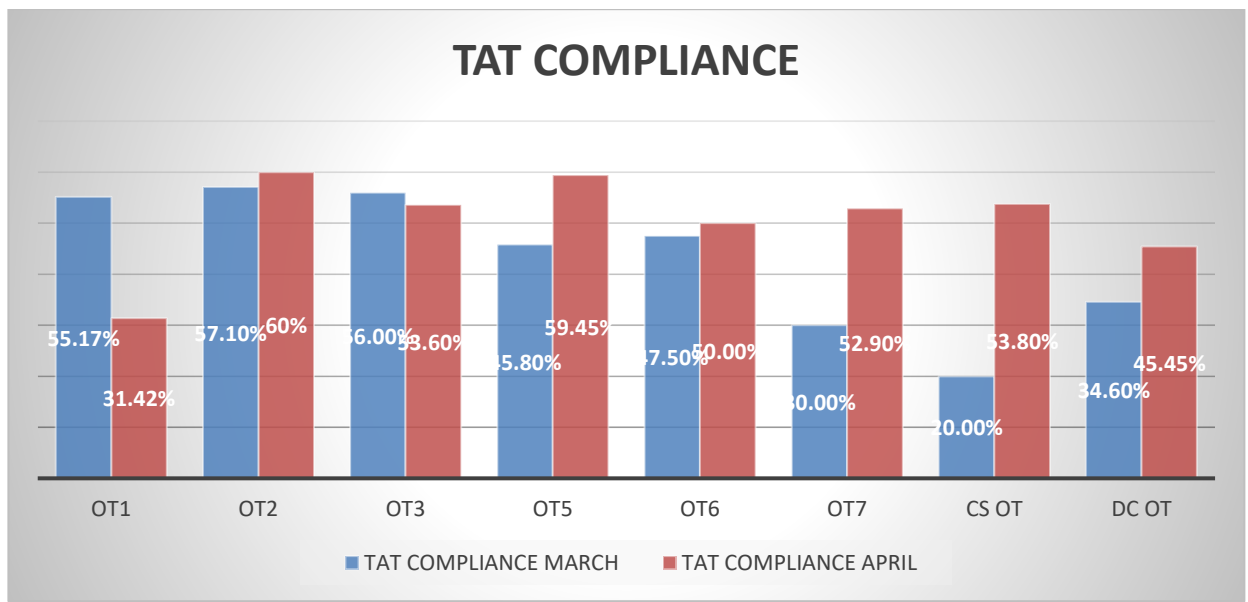
In 33% cases patient din turn up despite of prior OT booking, 26% cases patient was unfit.

4.1 Comparative evaluation OT wise in March and April :

OT/MONTH	TAT COMPLIANCE		AVERAGE TAT		ON TIME		DELAY		ADD ON		TOTAL	
	MARCH	APRIL	MARCH	APRIL	MARCH	APRIL	MARCH	APRIL	MARCH	APRIL	MARCH	APRIL
OT1	55.17%	31.42%	01:06	01:11	10	14	43	31	2	15	55	60
OT2	57.10%	60%	00:58	01:00	18	20	38	46	10	15	66	81
OT3	56.00%	53.60%	01:06	00:56	18	15	48	37	10	15	76	67
OT5	45.80%	59.45%	01:19	00:57	14	21	31	36	7	7	62	64
OT6	47.50%	50.00%	00:55	00:59	13	12	52	62	7	2	72	76
OT7	30.00%	52.90%	01:14	01:00	8	11	28	36	9	13	45	60
CS OT	20.00%	53.80%	01:00	00:50	2	5	6	9	11	15	19	29
DC OT	34.60%	45.45%	01:09	01:09	11	16	35	35	8	6	54	57
TOTAL CASES					94	114	281	292	64	88	449	494

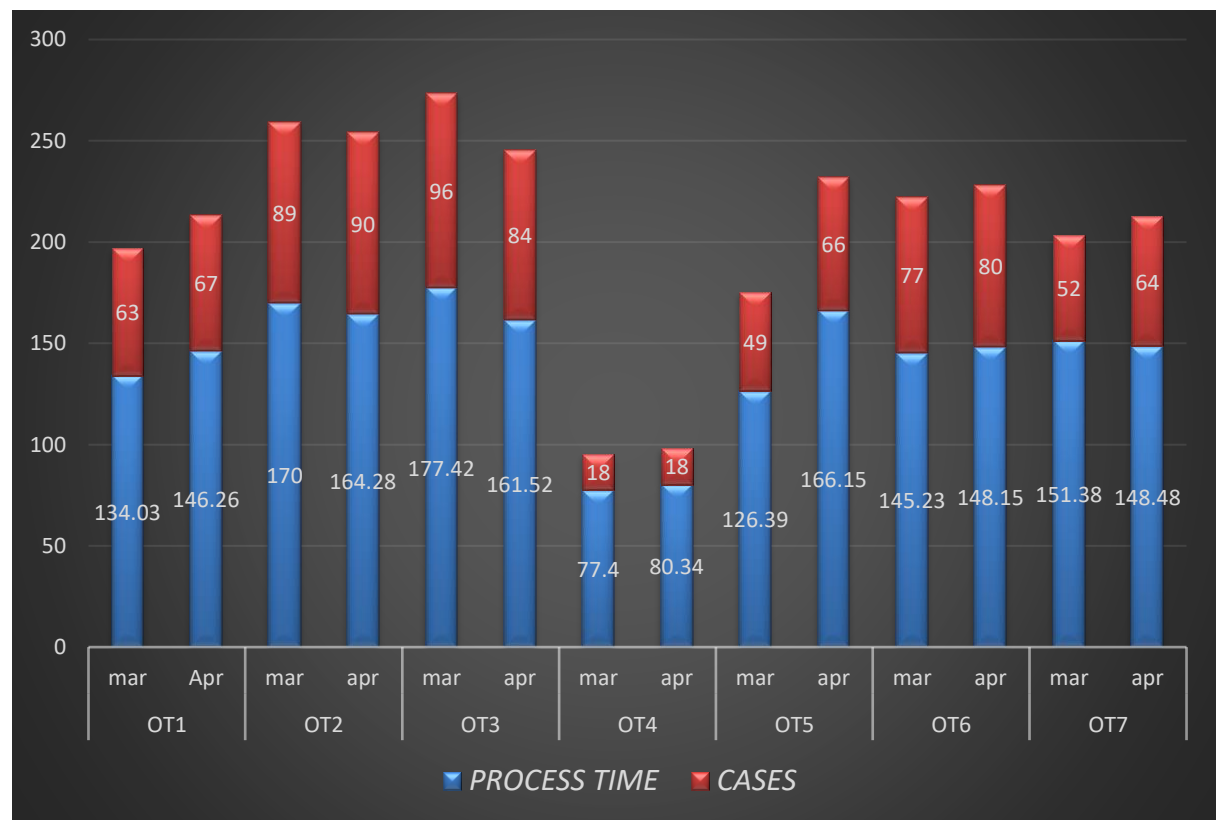
Average TAT decreased in OT3,OT 5, OT 7,CS OT. Remained unchanged in Day care OT.
A slight increase in OT 1 and OT 2 observed.

4.2TAT Compliance

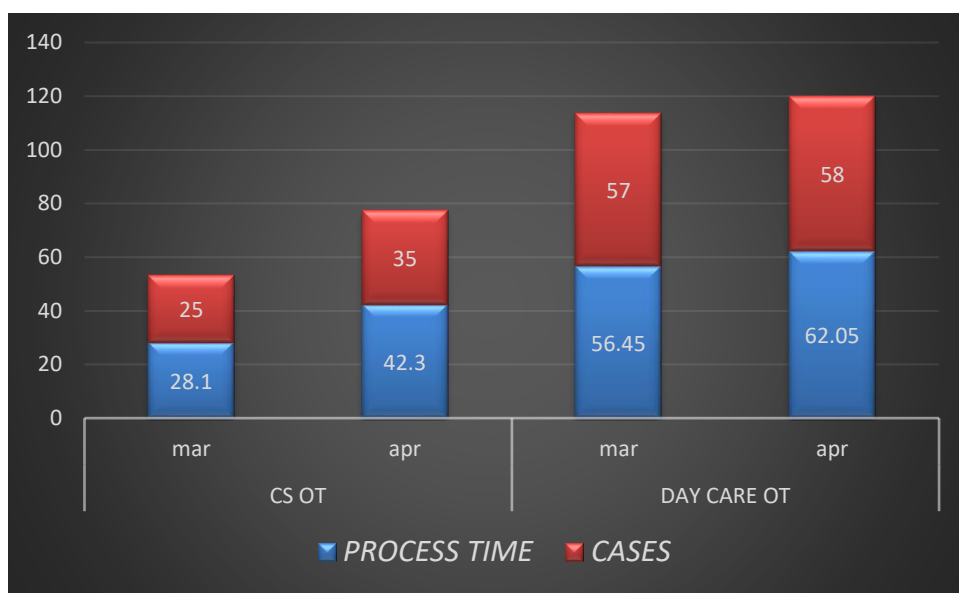


As depicted above, TAT compliance improved in all except OT-1 and OT-3.

4.3.1 Process time in hours and total done cases from OT 1 to OT 7



4.3.2 For CS OT and Day Care OT:



Enhanced utilisation of OT -1, 4, 5, 6 and CS OT , Day care OT in April than March observed along with increase in number of cases in all except OT 3.

4.4Compliance of scheduling:

OT CASES					
2018	Booked	Done	Cancelled	Rescheduled (out of cancelled)	Compliance of scheduling
February	485	454	76	15	87.60%
March	613	584	97	24	88.09%
April	609	596	61	17	92.70%

MONTH	FEBRUARY	MARCH	APRIL
Total number of Surgeries	454	586	596
Total number of unplanned return to OT	8	6	3
Total number of Emergency Surgeries	53	59	34
Adverse Anaesthesia events, If any	0	0	0

5.ACTIONS TAKEN TO TACKLE ISSUES AND ENHANCE

COMPLIANCE :

- In order to decrease the percentage of cancellations and delay in surgeries, a meeting was conducted in March with coordinators of various departments.
- To reinforce the importance of sticking on schedule,
- To discuss the issues and find out the reasons behind patients not turning up.
- To ensure that an evening prior to OT, confirmation call is done to the patients as reminder and confirming their presence on the day of surgery on time.
- On daily basis, root cause analysis of cases cancelled and delayed was done. Discussed with the concerned consultants in cases where rescheduling happened. A communication gap was found in certain cases where patient went LAMA or already discharged or had some financial issue but this wasn't being communicated on time to the respective technician to reschedule the list and give priority to other cases.
- To avoid patient late admissions, healing lounge became functional from April which smoothened the admission process for OT cases.
- Few issues arose during transfer of patients back to ward post operatively. Information to the attendant was not being provided in all the cases. To address this, it was discussed with the OT staff to ensure compliance of the information about shifting by documenting it in the post op register and getting it signed by the attendant on regular basis.
- As observed few patients attendants had issue with non-availability of implant box label causing them difficulty at the time insurance claim. To address this, emphasis was laid on documentation of handover of implant boxes label to the attendant in the post op register on regular basis.

- Non-compliance of counter signature on routine basis in the narcotic register was found. It was informed and ensured to be completed.
- Monitoring and evaluation of various documentation and maintenance of registers was done.
- Installing of hygrometer in TSSD room was ensured to monitor temperature and humidity.
- Vulnerable ID bands for all post-operative patients ensured.
- Documentation of diagnosis in the controlled OT register.

6.CPRS AUDIT OF OT FILES :

OT files were audited throughout the period of February to April.

Target : To achieve 100% compliance of documentation.

A sample of 44 files in February, 100 files in March and 100 files in April was done.

They were audited based on parameters of CPRS audit checklist as mentioned in the appendix.

Analysis of CPRS audit :(TABLE3)

Compliance of	% in Feb	% in Mar	% in Apr
Departmental Initial assessment	88.63	85	89
Fall Risk Assessment	95.45	89	93
Provisional Diagnosis	54.54	72	88
Current Medications	27.27	20	24
Progress Note	54.54	78.3	94.4
Active Problems Entered	38.63	37	54
Allergies assessed	70.45	73	81
Pain assessment	0	0	0
VTE prophylaxis	70	92.5	93.93

Nutritional assessment within 24 hrs of admission	93.18	93	92
Plan of Care with counter signature of treating Doctor	88.63	93	86
Treatment mentioned under heading of plan of care	13.63	26	24
Socio-economic & psychological status	18.18	13	17
Desired Outcome	0	4	7
Full name of procedures mentioned	65.9	67	70
OT Notes by team operating	86.36	94	100
Estimated Blood loss	0	0	0
Transfer Notes	22.72	65	69
Crisis Notes	NA	NA	NA

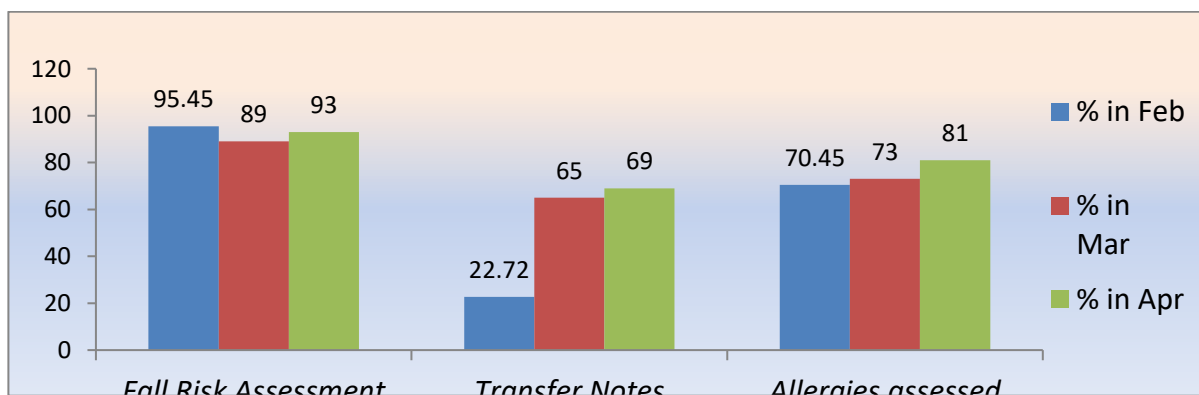
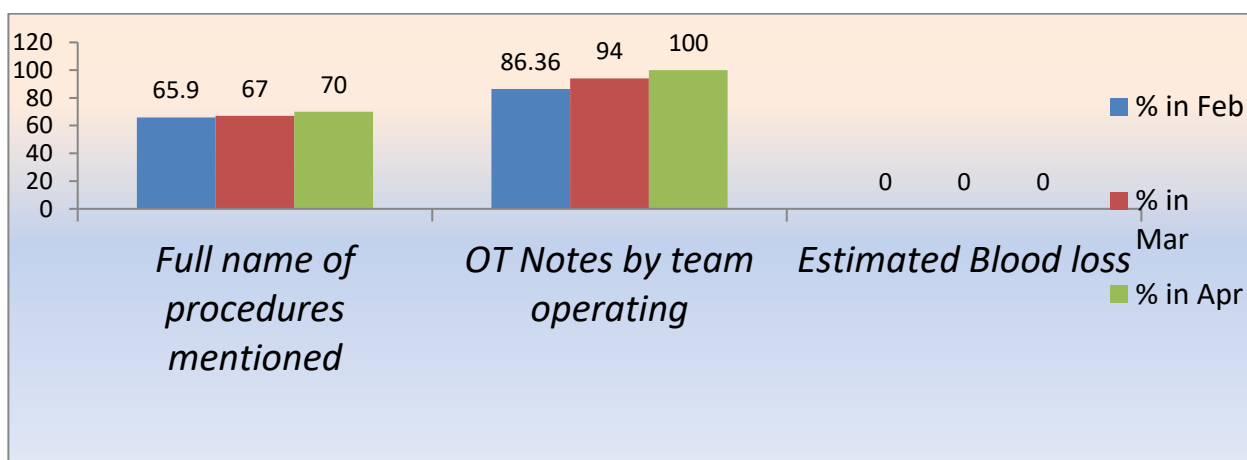
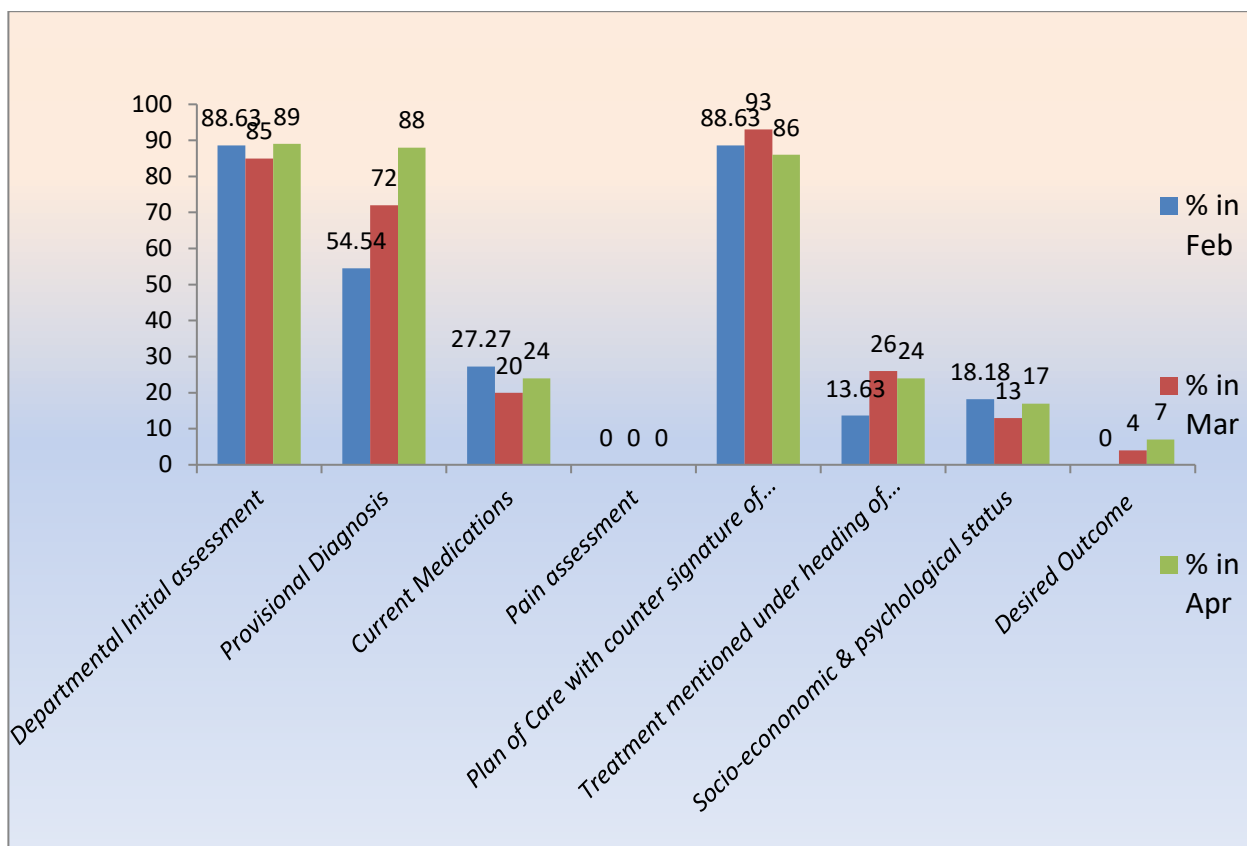
During the period of audit, the various department were contacted in case of non-compliance of either of the parameters.

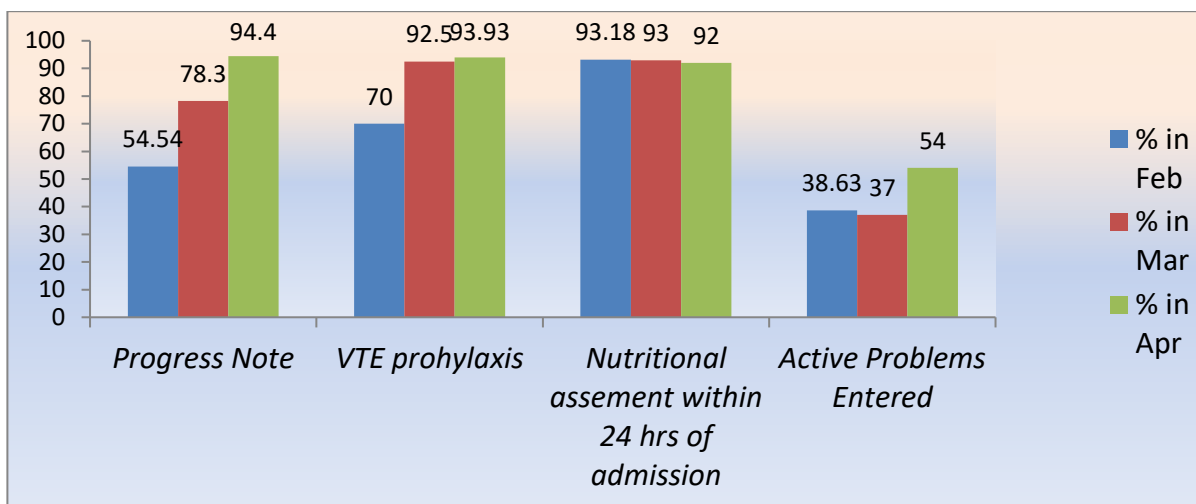
Respective doctors in case of IP assessment, VTE prophylaxis, progress notes, provisional diagnosis, current medications.

Nurses for the allergy assessment, active problems, fall risk assessment and transfer notes.

A doctors council was held on 22nd of February by the hospital to communicate the importance of documentation, timely and routinely and in the right way.

As seen, compliance of initial assessment improved to 89% in April, VTE prophylaxis documentation to 93.93%, OT notes by performing team to 100%, transfer notes compliance significantly improved from 22.72% to 69%, allergy assessment from 70% in February to 81% in April. Compliance of pain assessment and estimated blood loss by surgeons was found to be 0% as seen in bar diagrams 4 to 7 below.

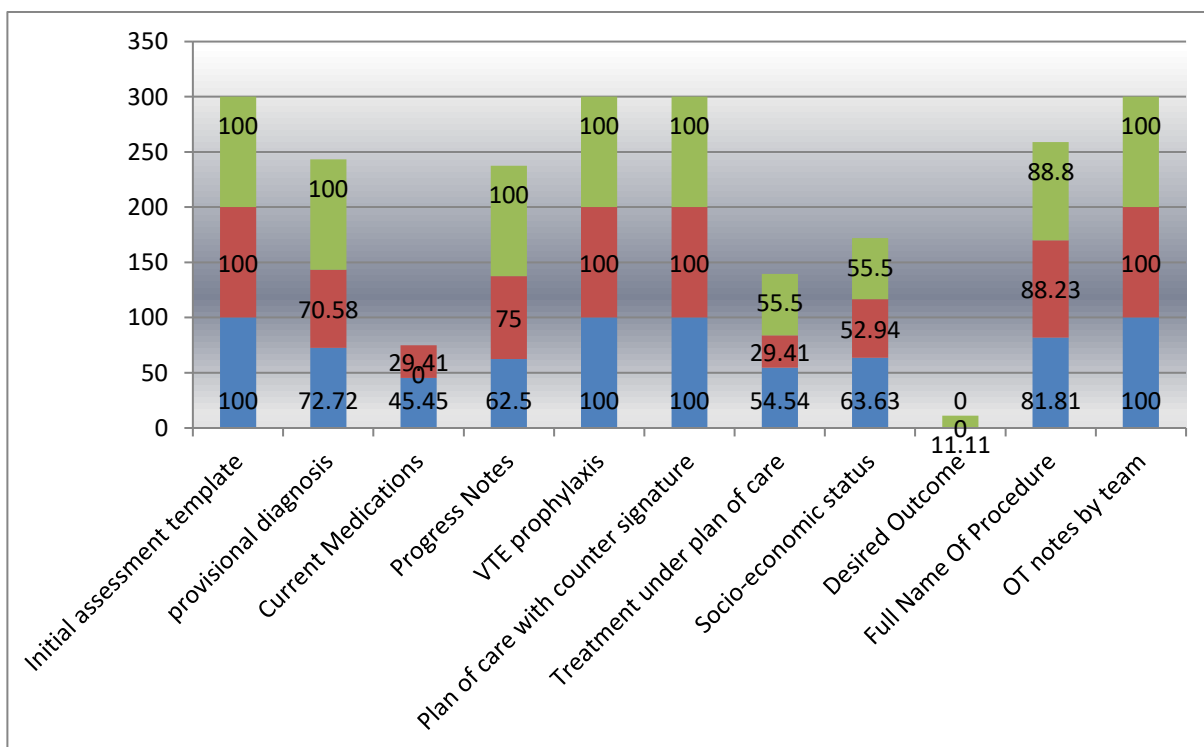




6.1 Department wise compliance of CPRS audit :

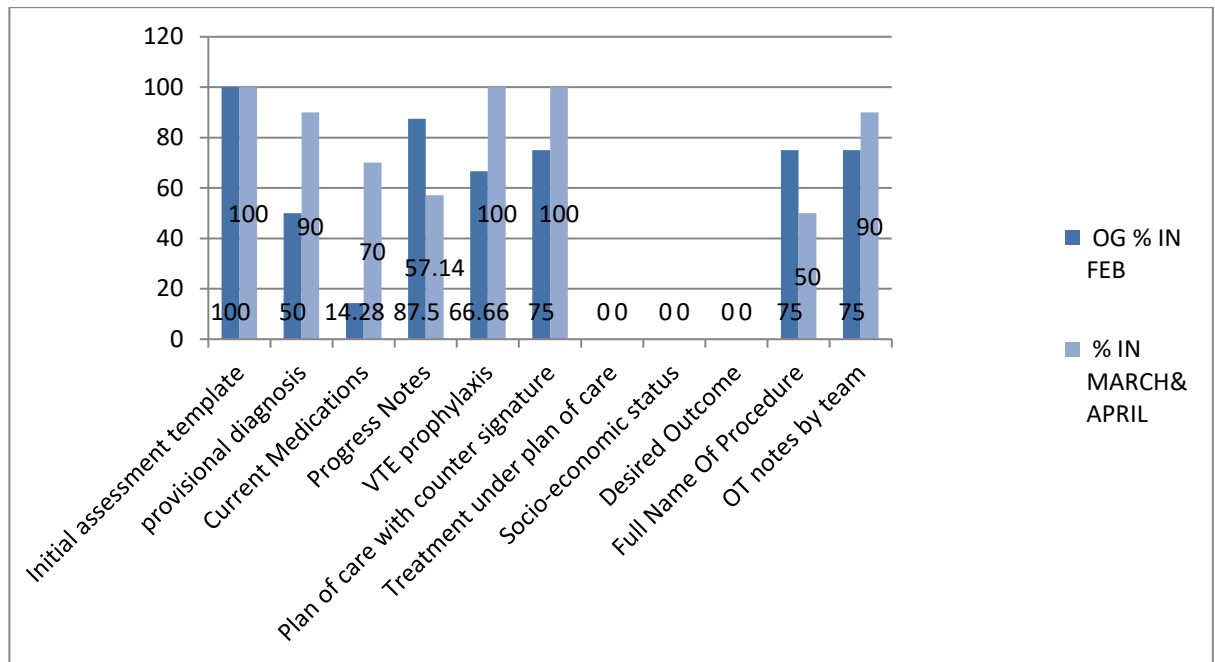
General Surgery: Compliance of current medications dropped to 0 from 45%.

Compliance of progress notes increased to 100 % as can be seen in bar diagram 8 below

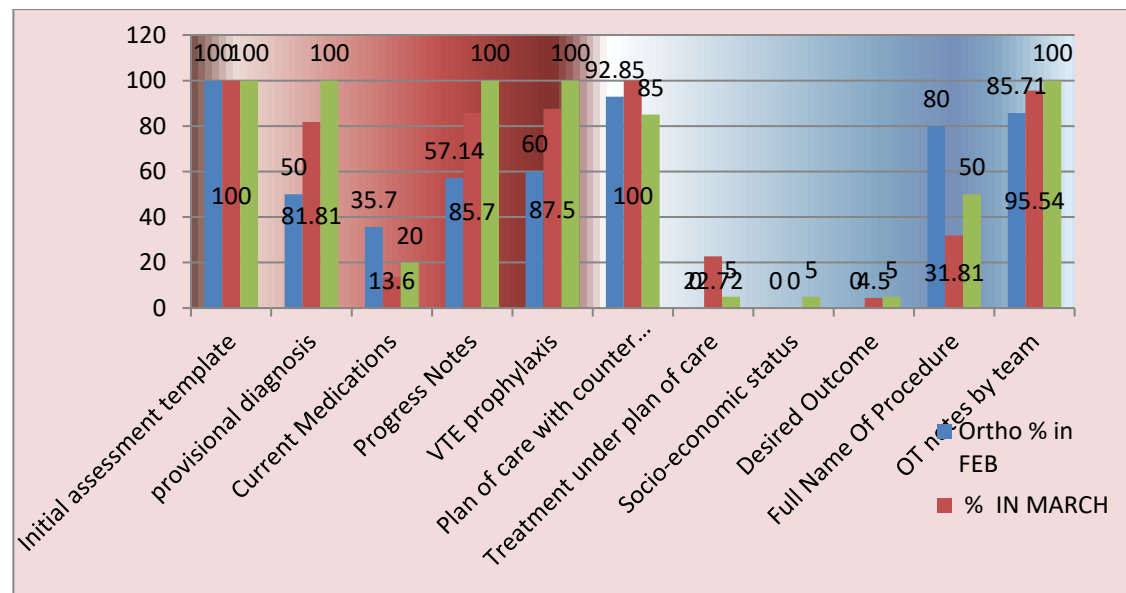


OG:

Compliance of provisional diagnosis improved from 50to 90%, VTE prophylaxis and plan of care with counter signature to 100 %, OT notes by team to 90 %, current medication compliance from14 to 70% as seen in bar diagram 9 below.



ORTHOPEDICS (Bar diagram10) :



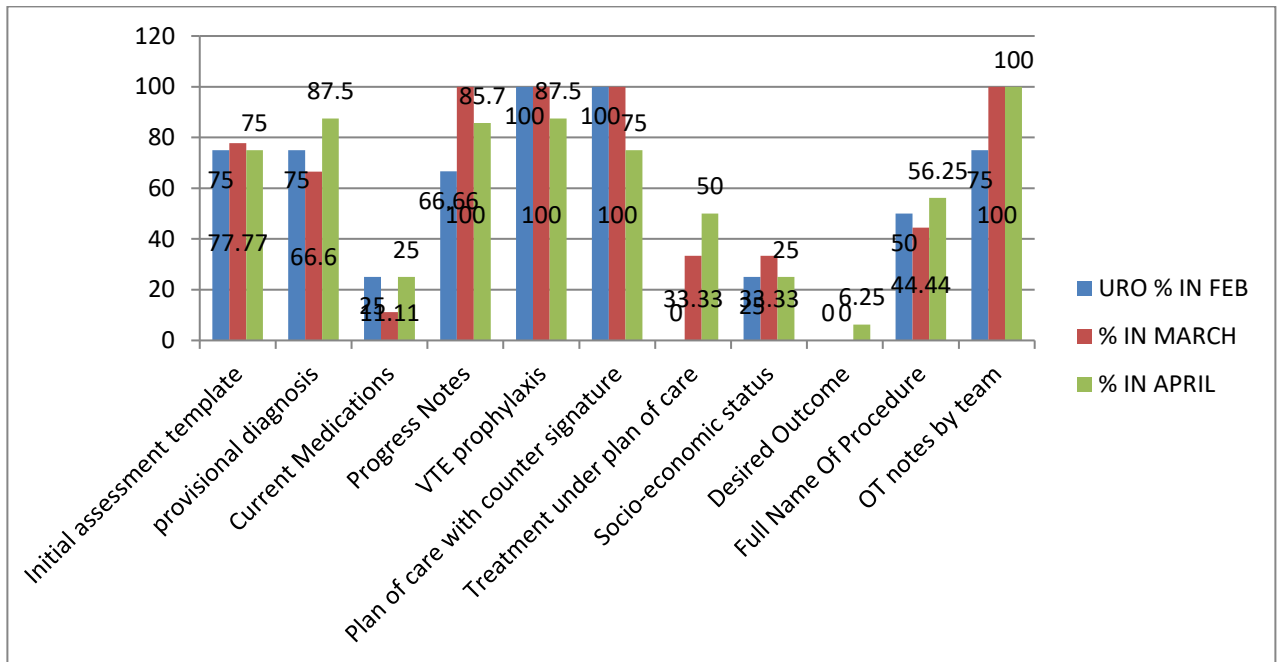
Full Name Of	80	31.81	50
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Procedure	85.71	95.54	100
OT notes by team			

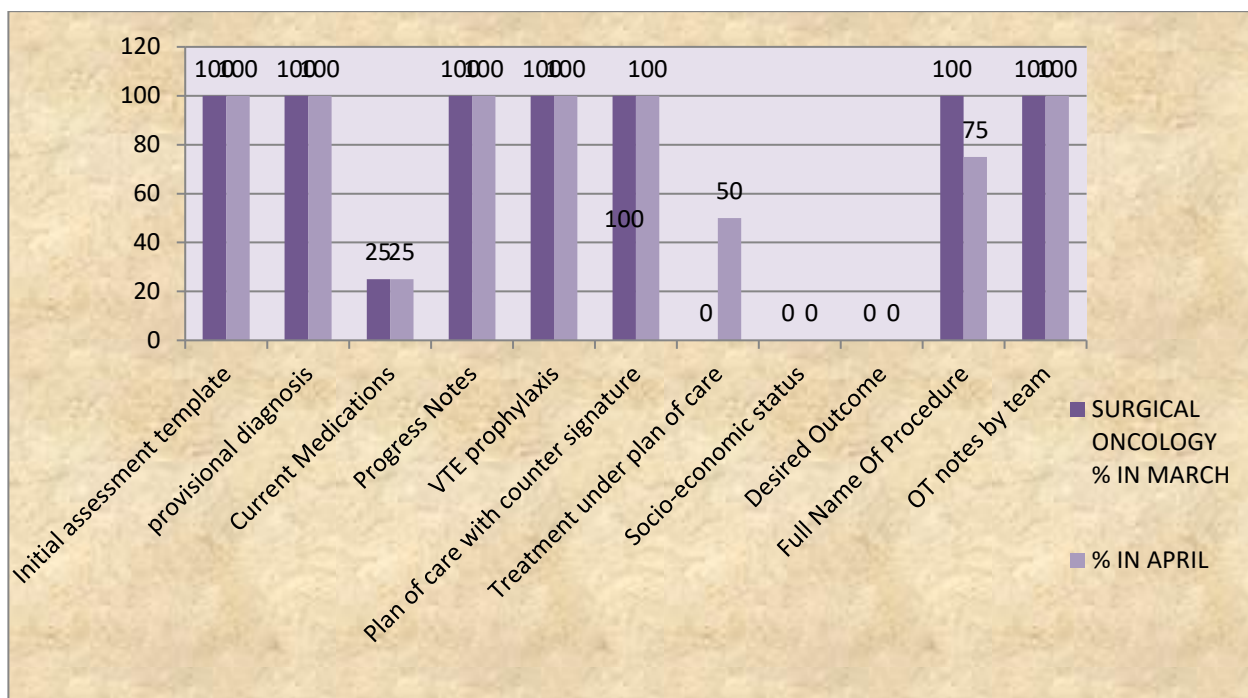
Documentation of full name of procedure dropped to 50%.

UROLOGY (Bar diagram 11) :

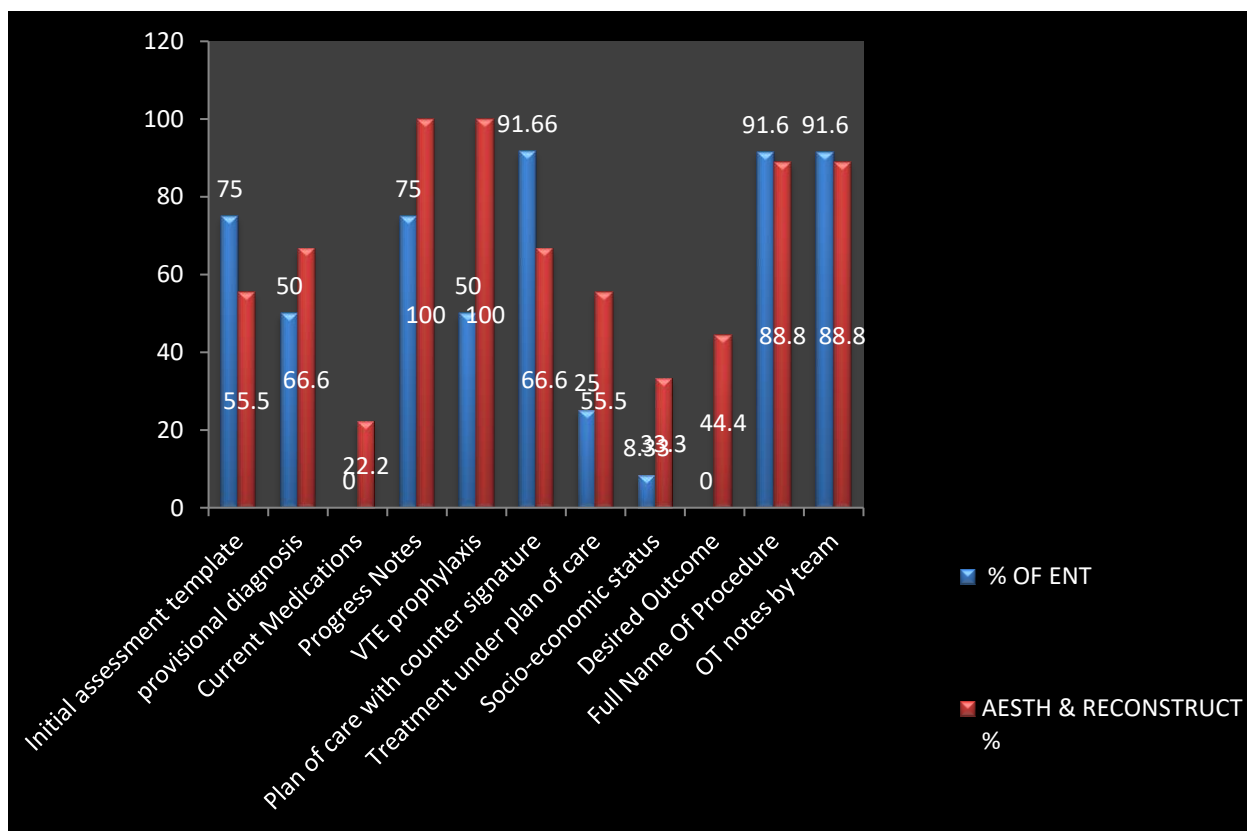
Compliance of OT notes by team increased to 100 %,



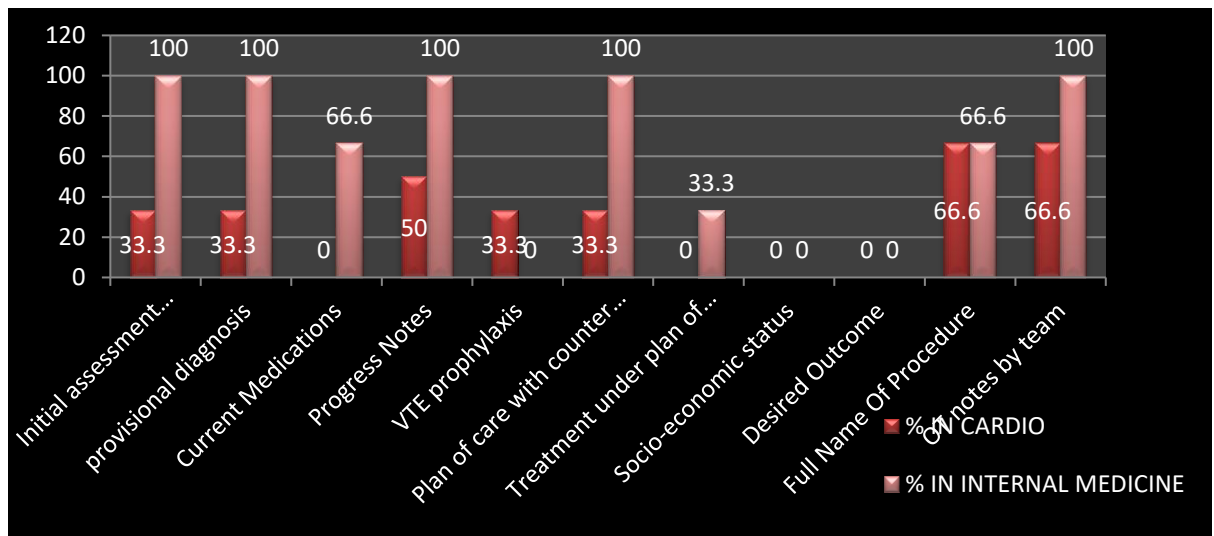
Surgical Oncology (Bar diagram 12):



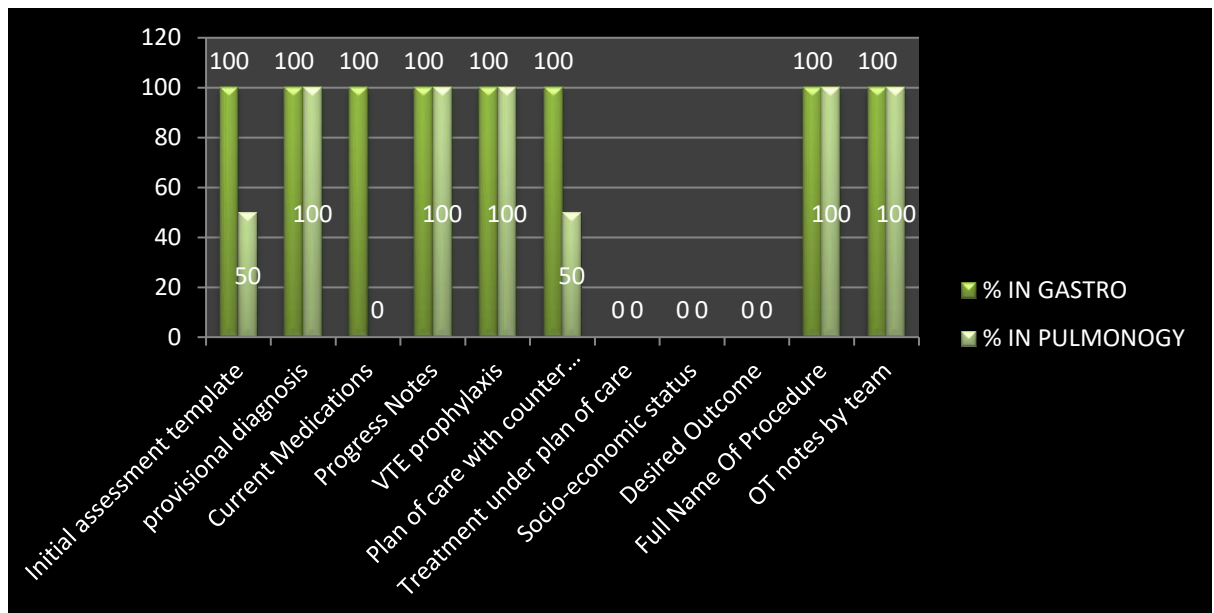
Department of ENT and Plastic Surgery (Bar diagram 13) :



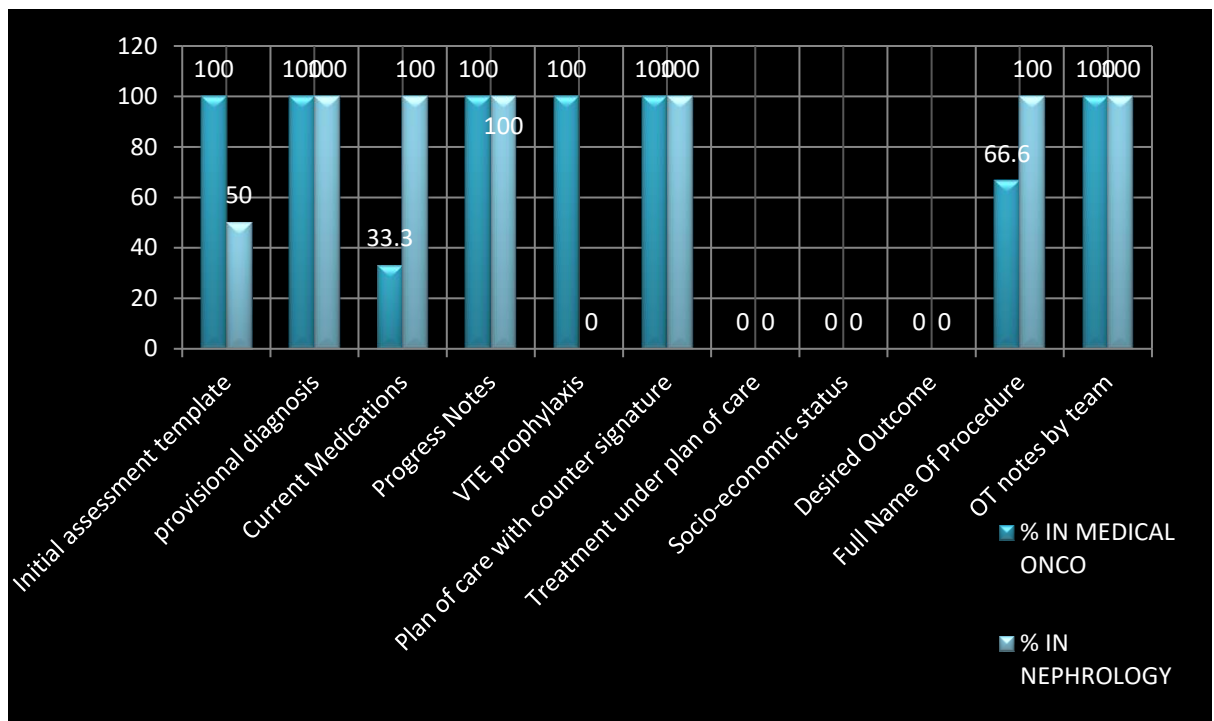
Cardiology and Internal Medicine (Bar diagram 14) :



Gastroenterology and Pulmonology (Bar Diagram 15):



Medical Oncology and nephrology (Bar Diagram16):

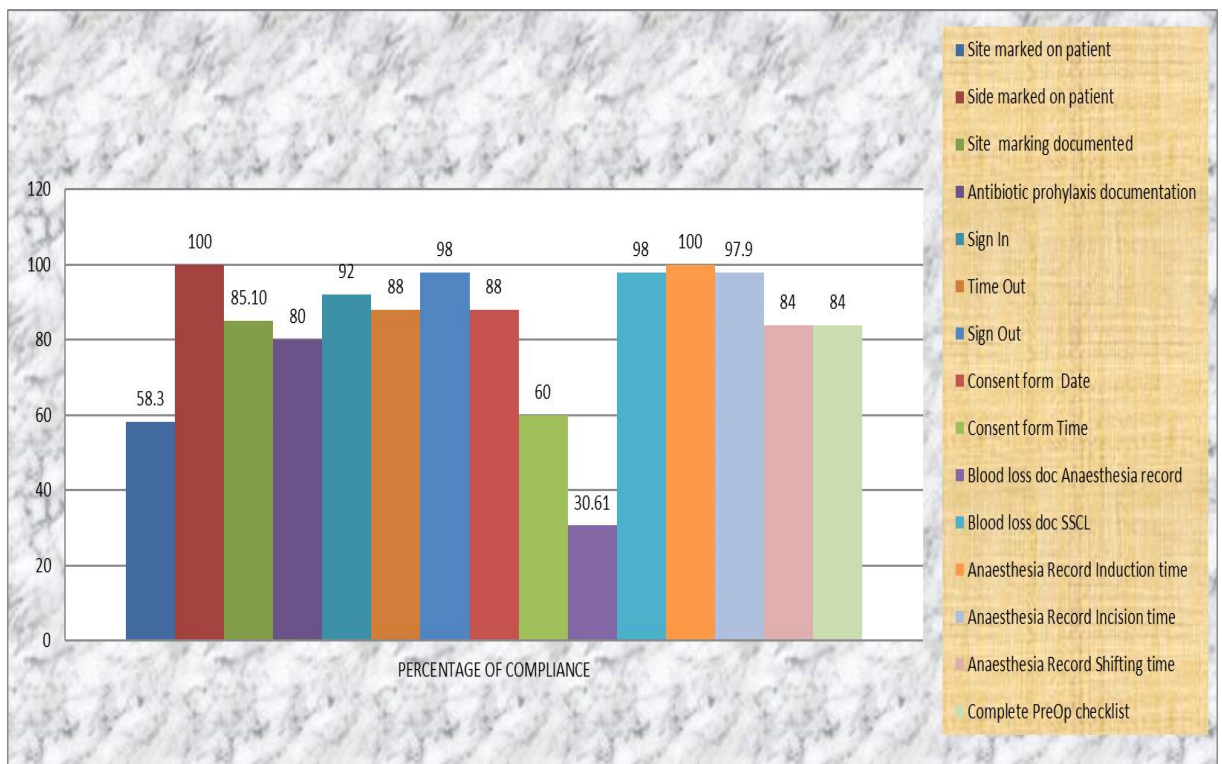


7.SURGICAL SAFETY AUDIT:

To find out the compliance of documentation of surgical safety checklist, anaesthesia record, antibiotic prophylaxis, site marking, a surgical safety audit of 50 files was done randomly over a period of 1 week in April based on the parameters of surgical safety audit checklist in the appendix.

Analysis:

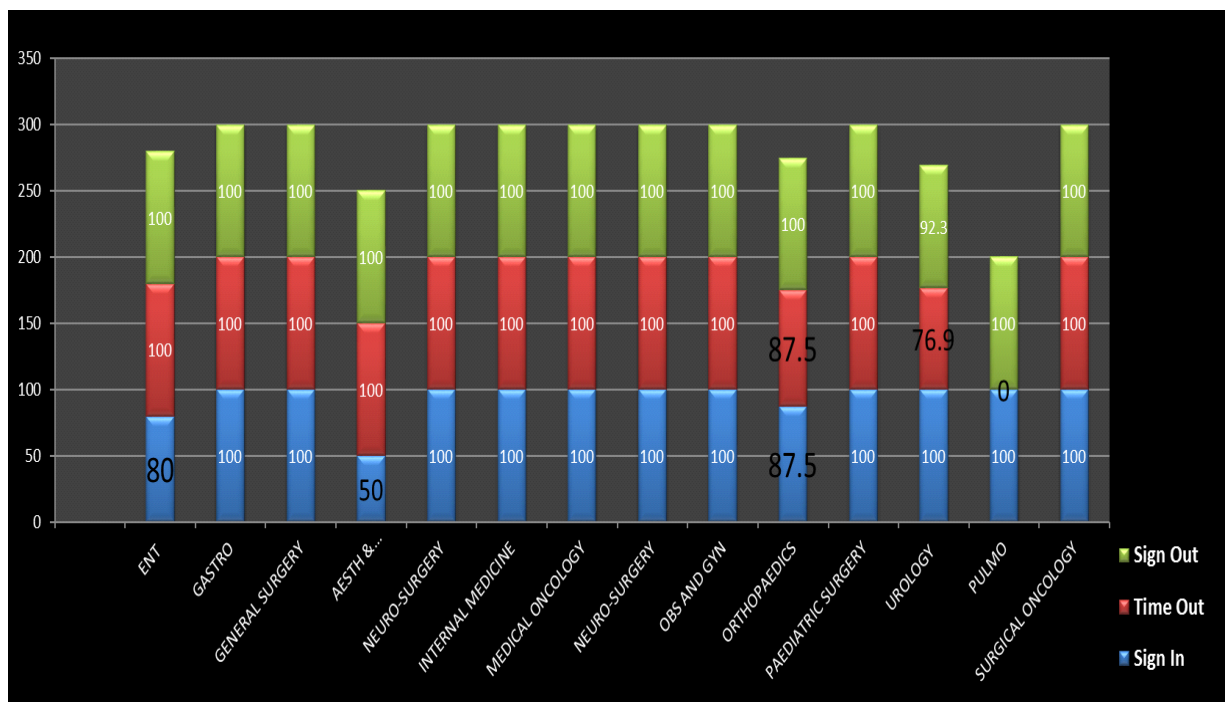
In histogram 2 below, the compliance is depicted graphically.



- Site marked on patient : 58.3%
- Side marked on patient : 100%
- Site marking documented : 85.1%
- Antibiotic prophylaxis documentation : 80%
- WHO surgical safety checklist
 - Sign In : 92%
 - Time Out : 88%
 - Sign Out : 98%
- Consent form Date : 88% ,Time : 60%
- Blood loss documentation in
 - Anaesthesia record : 30.61%

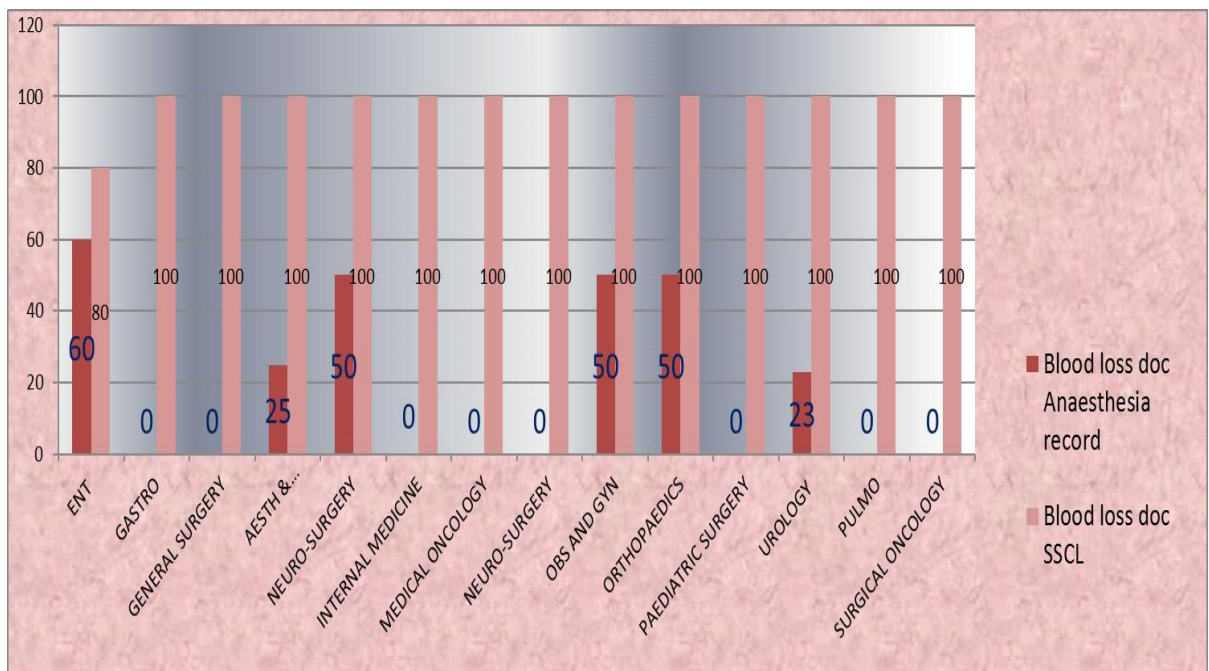
- In Surgical safety checklist : 98%
- Anaesthesia Record
 - Induction time : 100%
 - Incision time : 97.9%
 - Shifting time : 84%
- Pre Op checklist compliance : 84 %

7.1 Department wise (Bar diagram 16 to 20) :

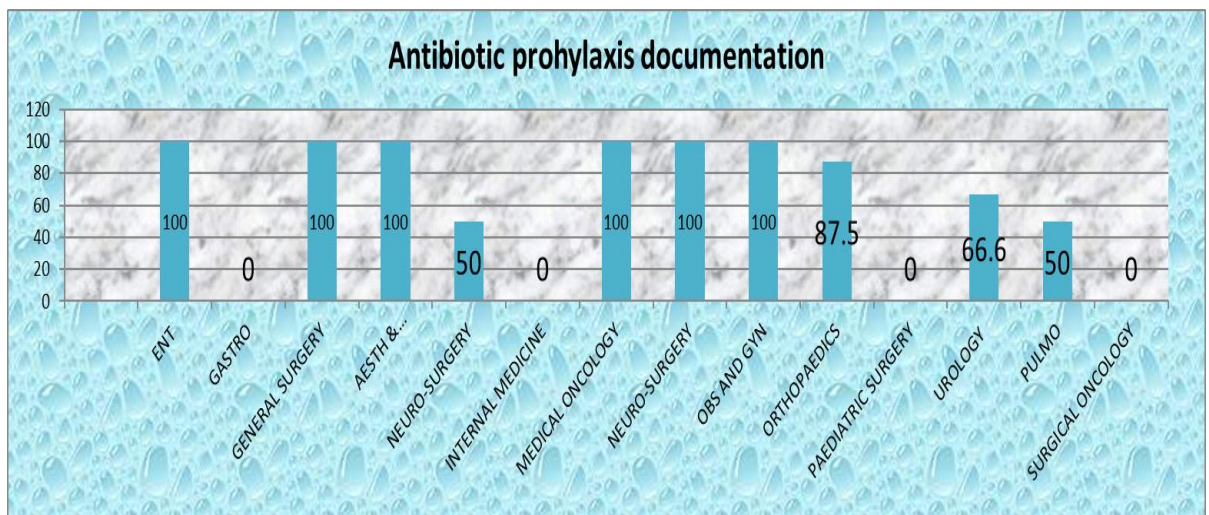


As seen in bar diagram 16 above

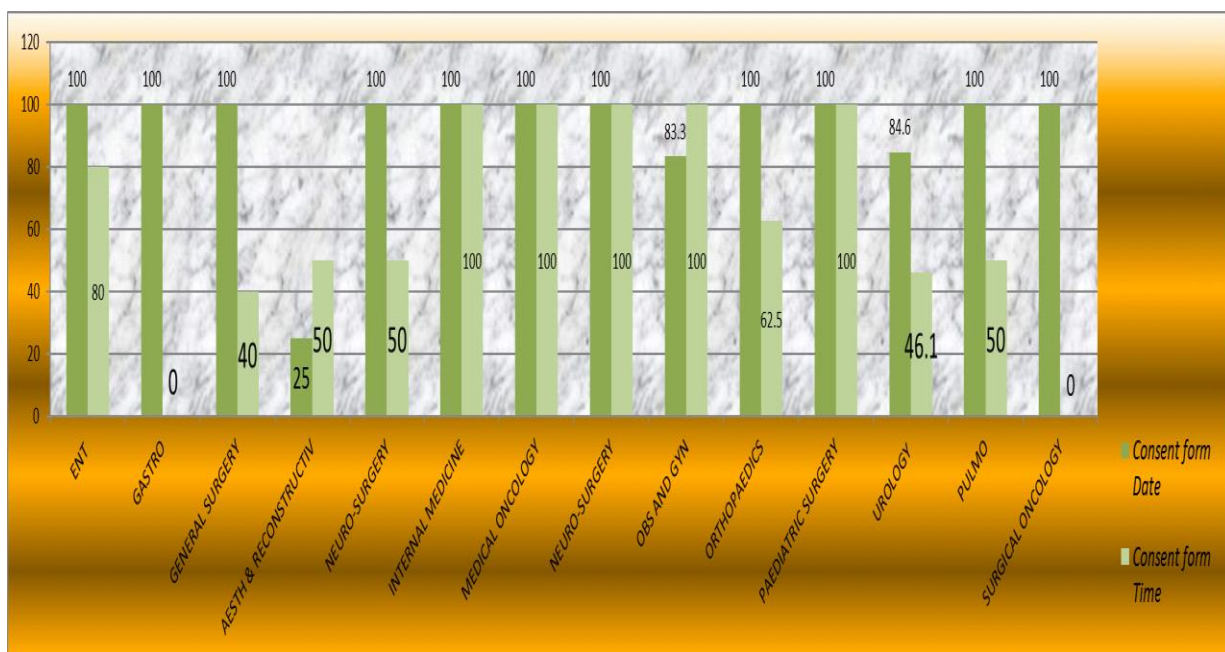
- Orthopaedics : time out and sign in 87.5%
- Urology : time out 76.9%
- Pulmonology : 0% time out documentation.



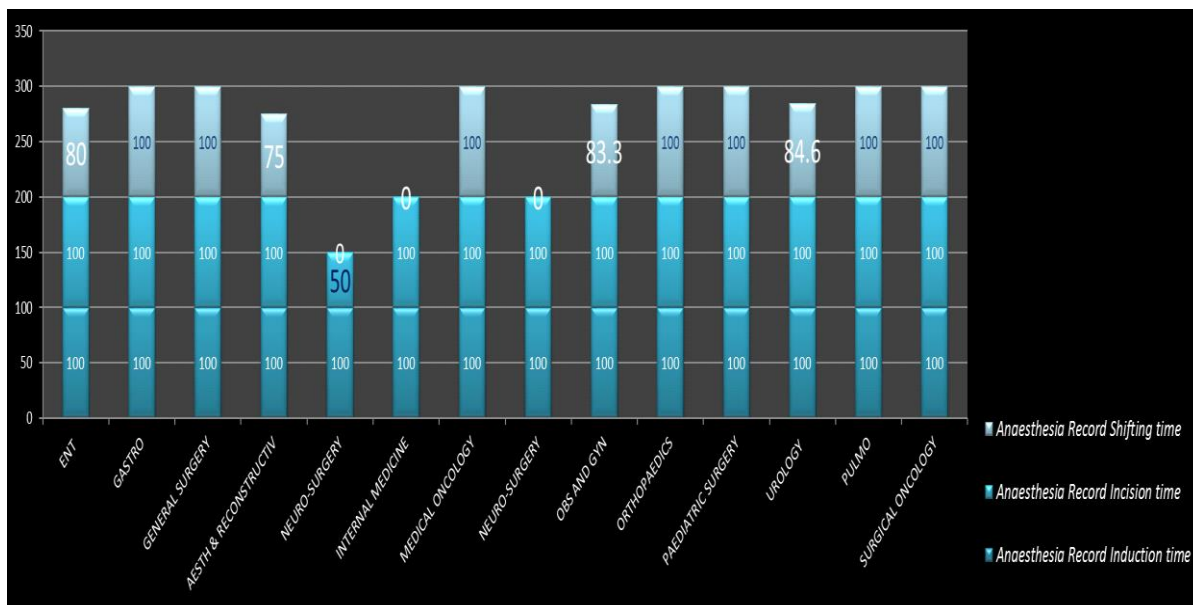
- Blood loss documentation in anaesthesia record 0% by most of the departments as can be seen in bar diagram 17 above.
- Antibiotic prophylaxis 0% by internal medicine, paediatric surgery, surgical oncology as seen in bar diagram 18 below.



Documentation of date and time in consent form (bar diagram 19):



Documentation in Anaesthesia Record (bar diagram 20)



8.Qualitative Analysis:

An audit was conducted along with ICN staff on 27th April to find out the awareness of OT staff on

- ID Bands
- Emergency codes
- Hand hygiene movements
- BMW management policy
- Handling of Universal precaution patients
- Spillage policy
- Quality indicators of OT (return to OT, needle stick injury, medication error, sentinel event)
- Importance of documentation
- Narcotic discarding policy

It included sample of 15 human resources out of which 10 were nursing staff and 5 technicians.

Interpretation : Some more training and education is required on the importance of documentation, quality indicators of OT, and on emergency codes in hospital. The staff seemed to be well aware on the parameters of hand hygiene movements, narcotic discarding policy and spillage policy.

Same was conveyed to the nursing supervisor to ensure further education and training sessions for the required staff.

9.Recommendations :

- Continuous efforts of reinforcement on adherence to standard protocols.
- Behaviour change communication to ensure implementation of standard practices.
In order to address few non-compliances such as unrestricted use of OT slippers, 0% documentation on estimated blood loss by surgeons and pain assessment.
- Training of staff on awareness and importance of documentation, quality indicators of OT.
- Proper coordination and communication between various surgeons, anaesthetists, departmental coordinators, billing desk, front office, nursing staff and technicians.
- More audits and timely meetings to monitor and review utilization and compliance of OT.

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Appendix

CPRS AUDIT CHECKLIST

- Departmental Initial Assessment Recorded using Initial Assessment Template
- Provisional Diagnosis mentioned on admission note ER/Ward
- Plan of Care with counter signature of treating Doctor
- Treatment mentioned under heading of plan of care
- Socio-economic & psychological status
- Desired Outcome
- Fall Risk Assessment Nursing
- Provisional Diagnosis mentioned on admission note ER/Ward
- Current medications - Medication reconciliation
- Progress Note (2 per day)
Active Problems entered
- Allergies Assessment
- Pain Assessment
- VTE prophylaxis
- Nutritional assessment within 24 hours of admission
- Full name of procedures mentioned
- OT Notes (to be put by the surgery team performing the procedure)
- Estimated Blood loss
- Transfer Notes
- Crisis Notes

Surgical Safety Audit Checklist

- Surgery performed/planned
- Site marked on patient
- Side marked on patient

- Site marking documentation
- Drug Name
- Sign In
- Time Out
- Sign Out
- Antibiotic prophylaxis documentation
- (Documentation in Surgical safety checklist)
- Consent form – Date, Time , signature of doctors and patient/witness.
- Blood loss documentation in anaesthesia record and surgical safety checklist
- Anaesthesia record- Induction time, incision time, shift out time
- Pre-Op Checklist documentation

DAILY DATA ON STATUS AND DELAY OF OT

- Time in
- Time out
- Scheduled time (Slot booked)
- Category i.e if delayed, cancelled/rescheduled, on time , add on
- Causes/Remarks
- Department

Staff Awareness Audit Checklist

- ID Bands
- Emergency codes
- Hand hygiene movements
- BMW management policy
- Handling of Universal precaution patients
- Spillage policy
- Quality indicators of OT (return to OT, needle stick injury, medication error, sentinel event)
- Importance of documentation
- Narcotic discarding policy

