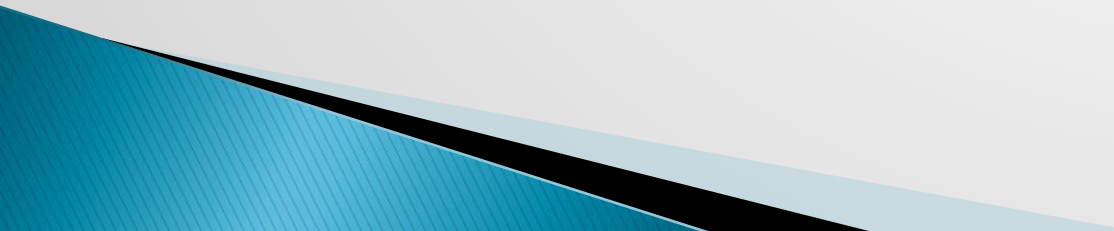


Measuring operational efficiency of 200 bedded super specialty hospital, Jaipur

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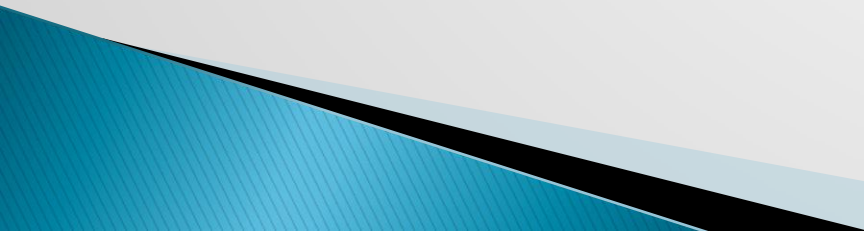
Introduction

- ▶ Quality orientation is an integral part of patient care. Best possible care at the institutional level is not considered adequate in the present competitive environment.
 - ▶ It is therefore becoming mandatory for the institution to monitor quality indicators/parameters and compare their performance level with the national standard or international bench marks.
 - ▶ Quality indicators aim to detect sub-optimal care either in structure, process or outcome, and provide an opportunity to the individual institution to improve its quality of care through standardization of processes, procedures and treatment protocols.
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Aim of the Study

- ▶ To analyze the quality indicators of clinical departments as per NABH standards and guidelines in order to assess the operational efficiency and make improvement to enhance the compliance of standards of 200 bedded super specialty Bhagwan Mahaveer Cancer Hospital in Jaipur city.

Objectives

- ▶ Identify the indicators of quality assessment in the clinical departments of hospital, as per set NABH standards and guideline.
 - ▶ To find out trends of functioning of clinical departments in last three months.
 - ▶ To identify areas of potential improvements and develop recommendations in coordination with organizational resources for strengthening and enhancing the overall quality of Clinical departments
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Methodology

- ▶ **Place of study:** 200 bedded super specialty hospital, in Jaipur
- ▶ **Study area:** Departments taken into consideration for the study were Radiology Department, Operation theatre, Intensive Care Unit, Patient Care Wards, Laboratory, Blood Bank department, MRD Department
- ▶ **Study period:** The time frame of the study was three months (15th February to 8th May)
- ▶ **Study design:** Study type used was cross-sectional analytical study.
- ▶ **Study tool:** Direct observation, SOPS, Checklists and Records.
- ▶ **Data type:** Primary and Secondary data has been collected for the study

- ▶ **Sample size:** All the cases reported from 1st january'16 to 30 march'16 has been taken into consideration, except for the blood bank turnaround time calculation where our sample size is of 66 blood bag taken and sample size of 100 inpatient files per month taken for assessing inpatient indicators.
- ▶ **Sampling method:** simple random sampling method
- ▶ **Method of data collection:** The data will be collected through the primary and secondary sources. The sources will be as follows-
 - ▶ Primary Data Source- Direct observation (day to day)
 - ▶ Secondary Data Source-Checklist (Quality Indicator Formats), Auditing patient records(MRD) and HIS, Inpatient files of the patient admitted in the wards, Interaction with the consultant, doctors and supporting staff, Recording data in the departments

Results and Discussion

INDICATOR FOR BLOOD BANK-

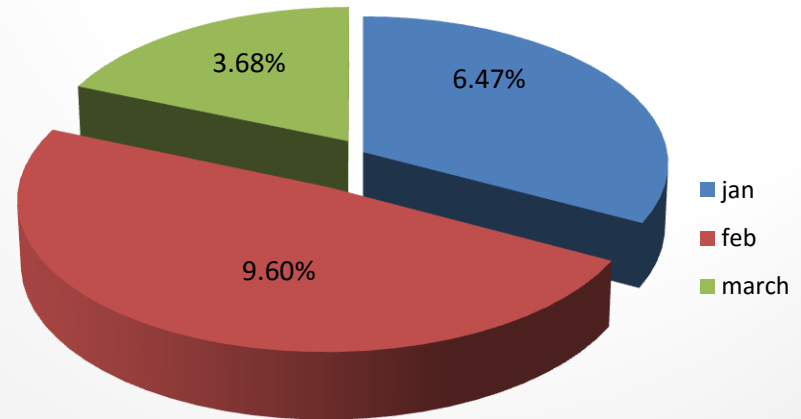
- ▶ Percentage of blood bank component wastage
- ▶ Percentage of blood and blood component transfusion reaction
- ▶ Turnaround time for issue of blood and blood component

Percentage of blood bank component wastage

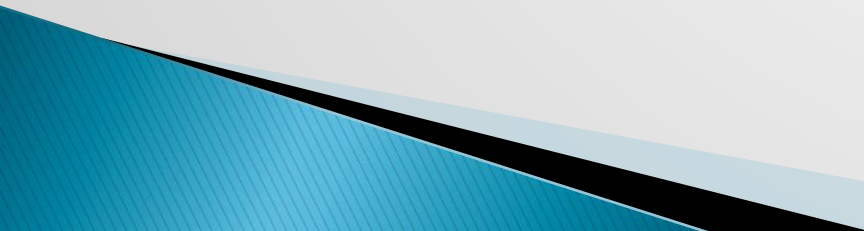
Results- shows that % of blood bags wastage are increasing from January to February that is 6.47% to 9.6% and then it decreased in march to 3.68% but blood bag wastage is still there.

Different **reasons** for blood bag wastage are-

- ▶ Mishandling of blood
- ▶ Positive infection case
- ▶ Insufficient collection volume
- ▶ Haemolysed blood
- ▶ For RDP more than 5 days storage
- ▶ Bag leakage



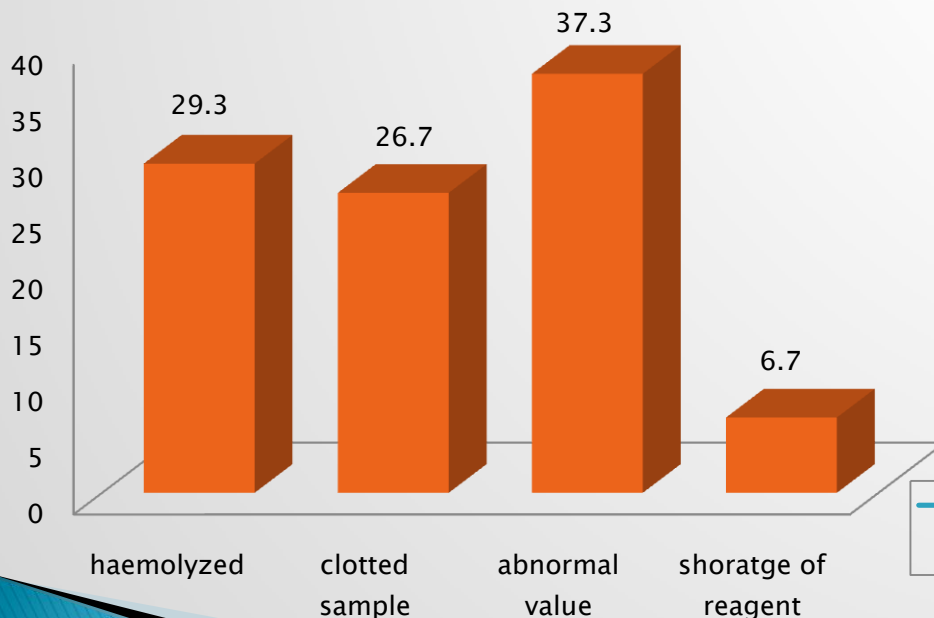
INDICATOR FOR LABORATORY AND RADIOLOGY–

- ▶ Percentage of Re dos in laboratory
 - ▶ Percentage of Re dos in radiology
 - ▶ Percentage of reporting error in laboratory
 - ▶ Percentage of reporting error in radiology
 - ▶ Percentage of employee Adhering to Safety Precautions working in Diagnostics
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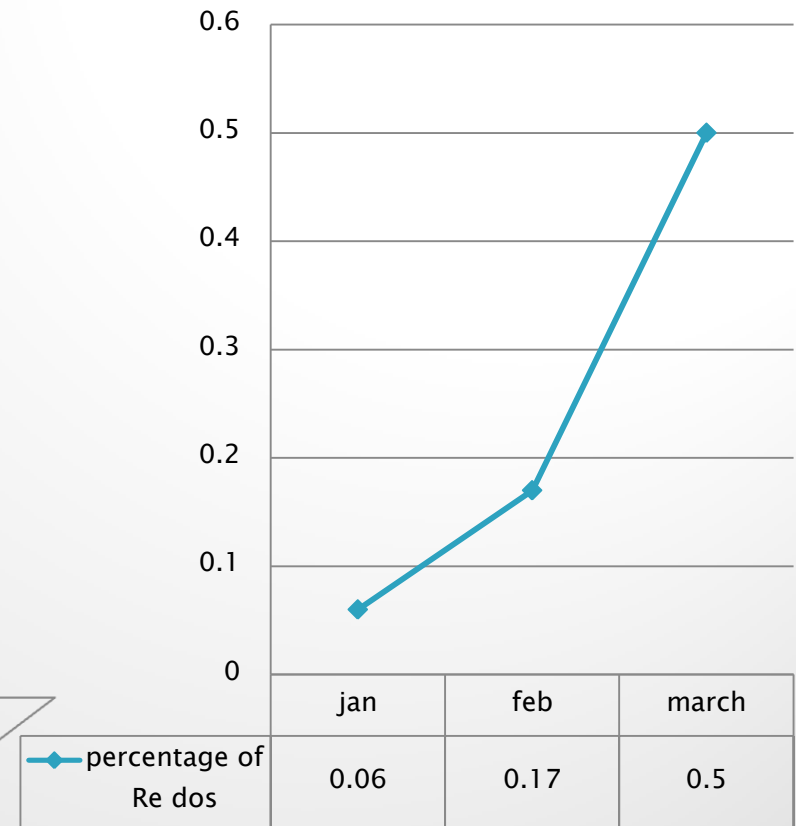
Percentage of Re dos in Laboratory

Results- shows that percentage of repeat test are increasing from January to March ie. From 0.06% to 0.46%. Increase in no of repeat test shows improper utilization of resources.

Reasons-



percentage of Re dos



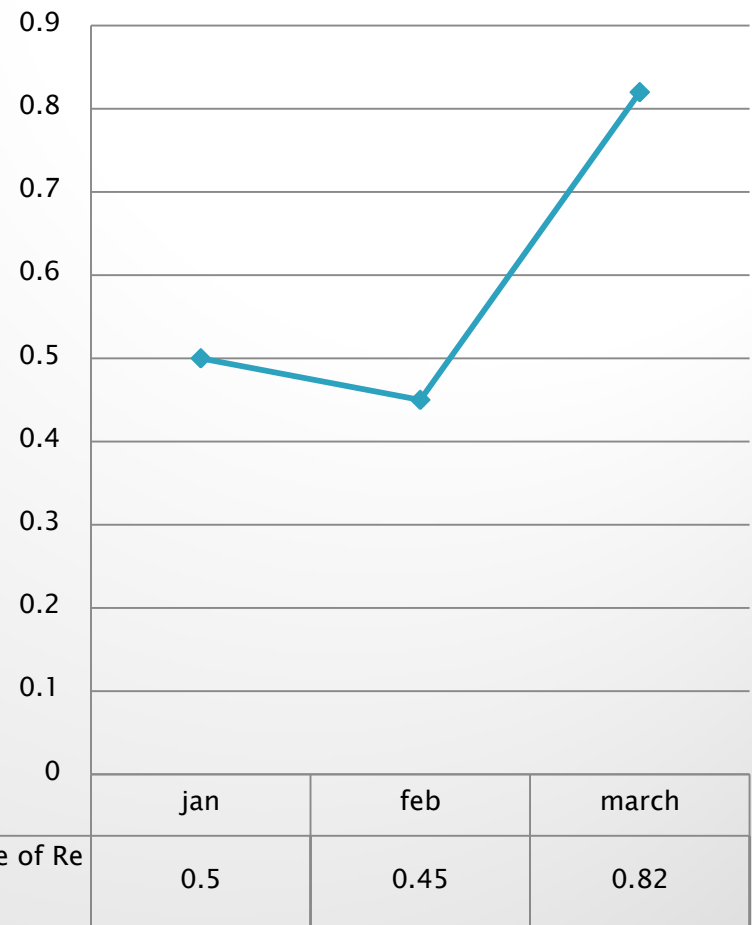
Percentage of Re dos in Radiology

Results- shows that case of Re dos which is 0.5% in January month increases to 0.8% in March which needs to be improved to provide quality of healthcare.

Reasons- The basis reported reasons by radiology staff was:

- ▶ 1. Movement of the patient
- ▶ 2. Breathing during x-ray shoot

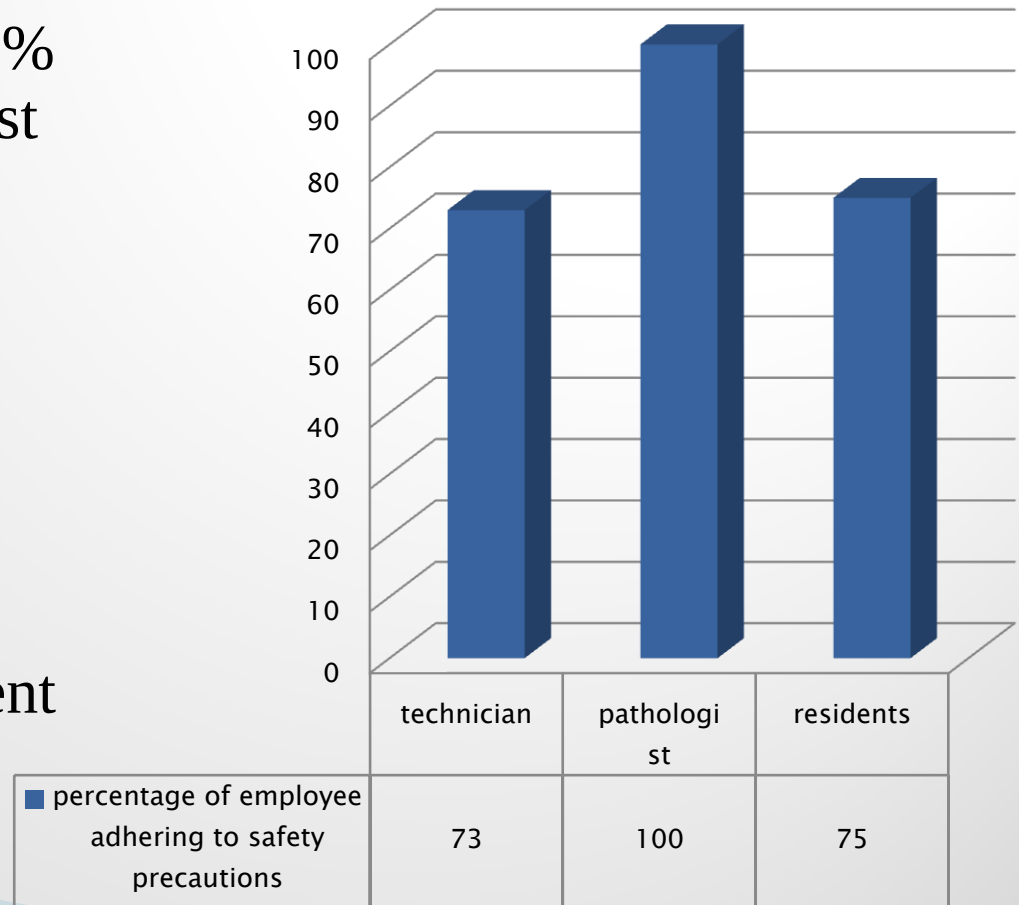
percentage of Re dos



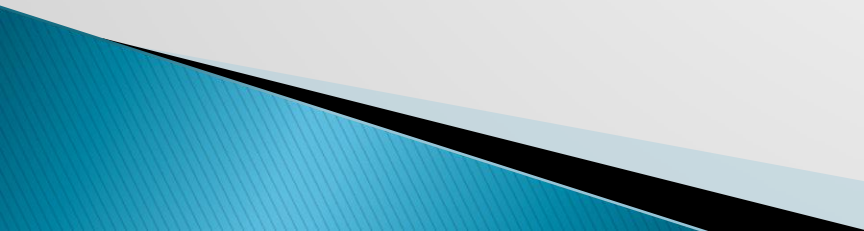
Percentage of employee not adhering to safety precautions in diagnostics

- ▶ **Results-** shows that safety adherence of staff is appreciable as there is 100% conformance by pathologist and 75% by residents and 73% by technicians still there is potential for improvement.
- ▶ **Reasons-** for not adhering to safety precautions by staff is due to their negligent behaviour.

percentage of employee adhering to safety precautions



Indicators of operation theatre

- ▶ Percentage of modification of anaesthesia plan
 - ▶ Percentage of unplanned ventilation following anaesthesia
 - ▶ Percentage of adverse anaesthesia event
 - ▶ Anaesthesia related mortality
 - ▶ Percentage of unplanned return to OT
 - ▶ Percentage of re-scheduling of surgeries
 - ▶ Percentage of cases who received appropriate prophylaxis antibiotics within specified time frame
 - ▶ OT utilization rate
- 

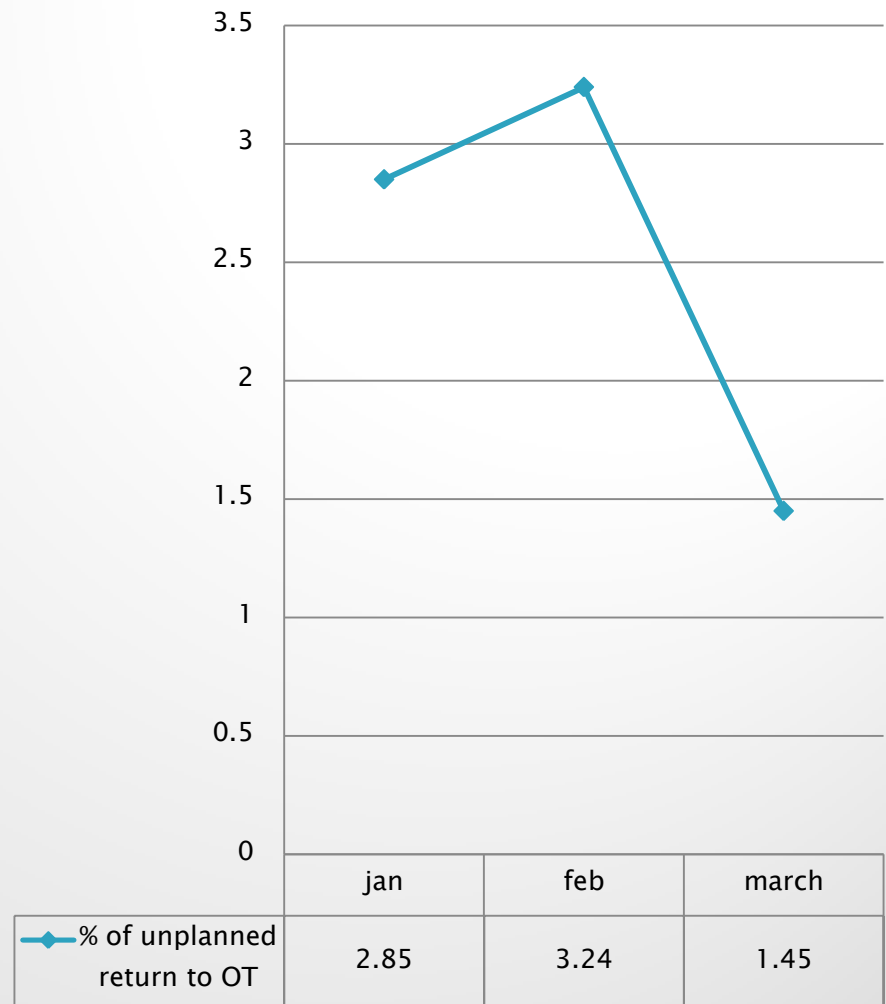
Percentage of unplanned return to OT

Results- shows that percentage of unplanned return to OT increased from January to February that is 2.9% to 3.2% and then decreased in march up to 1.5% but unplanned return to OT is still there.

Reasons-

- ▶ Free flap re-exploration
- ▶ Flap necrosis
- ▶ Emergency tracheostomy

% of unplanned return to OT



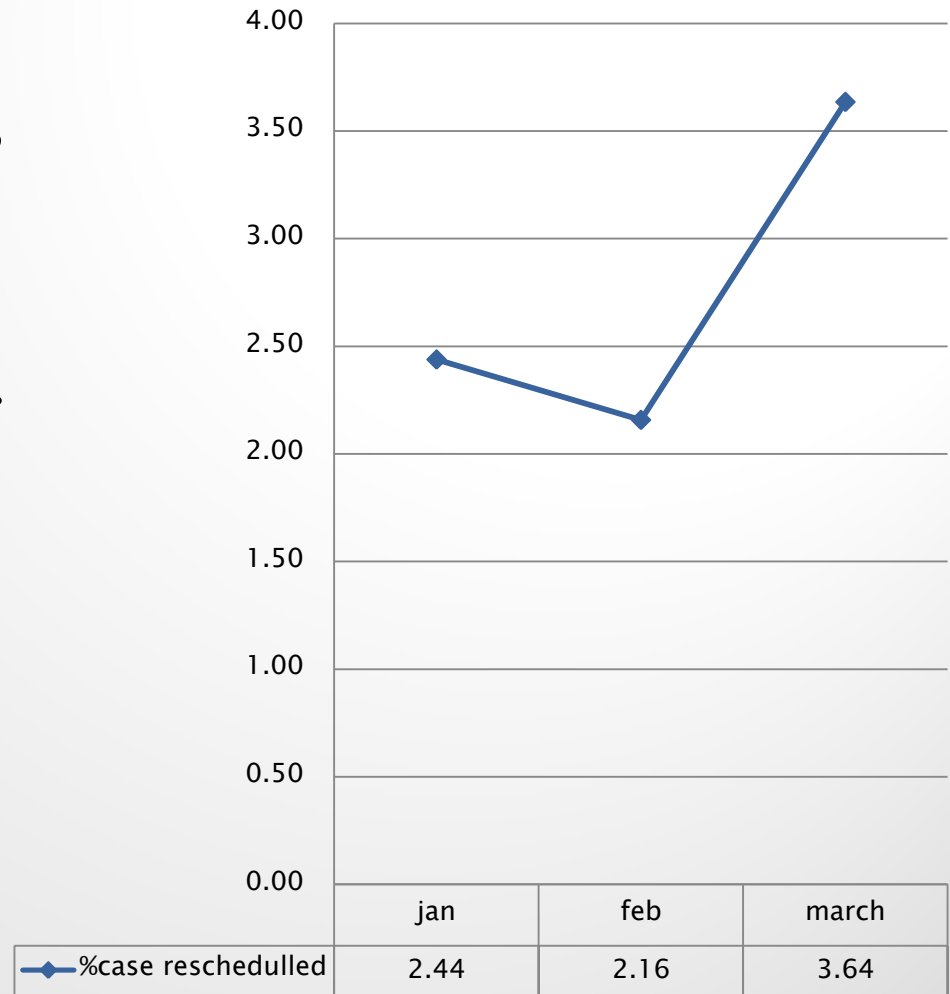
Percentage of surgeries re scheduled

Results- shows that percentage of re-scheduling of surgeries decreased from January to February that is 2.45% to 2.16% and then it increased in march to 3.6%.

Reasons-

- ▶ Patients may not be fit
- ▶ Reports are abnormal
- ▶ Emergency case is there.
- ▶ Pre-pone cases

%case reschedulled



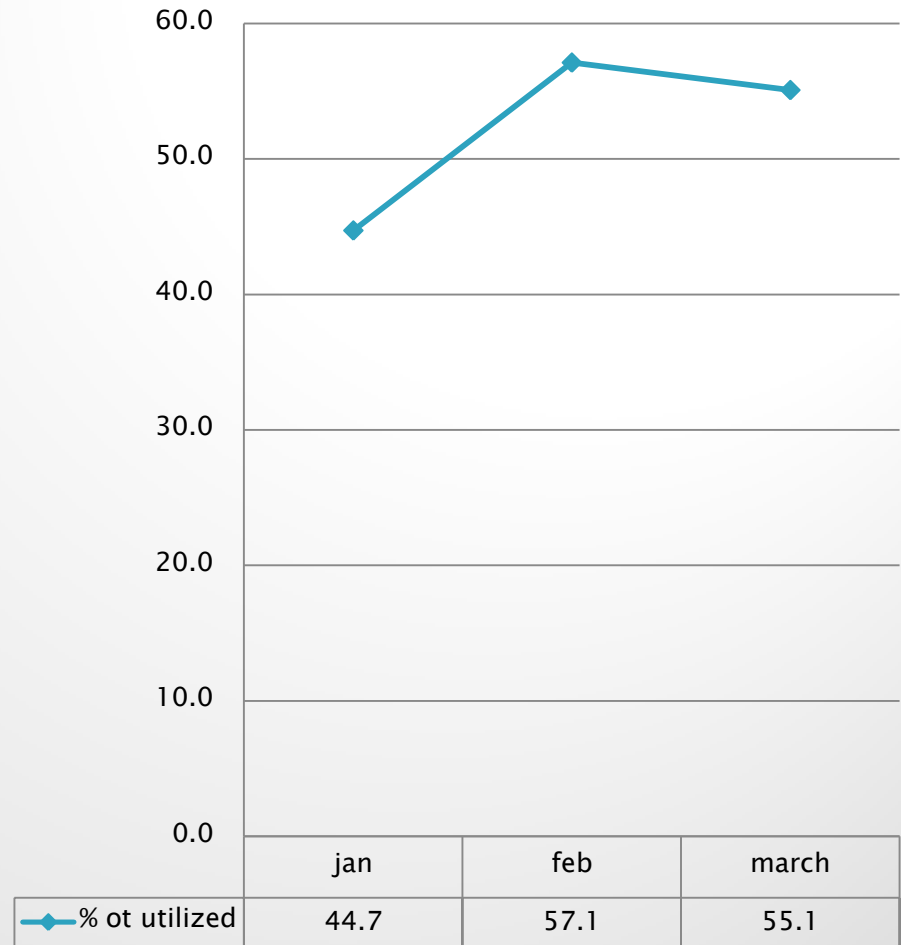
OT utilization rate

Results- shows that OT utilization rate increased from January to February that is 44.7 to 57 and then it decreased in March till 55.1 but under-utilization is shown.

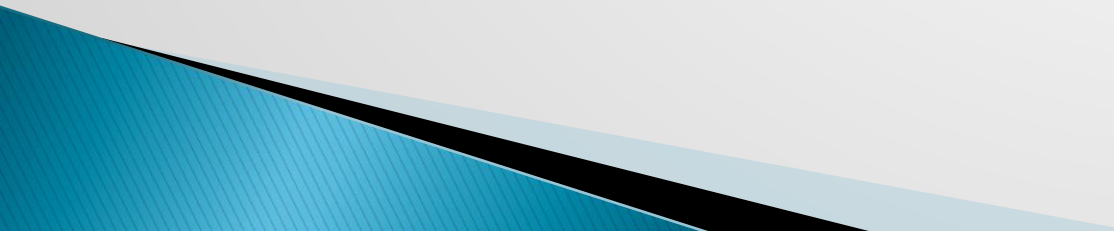
Reasons-

- ▶ Induction to extubation time is recorded only.
- ▶ Pre-operative movement of patient not included and post-operative time
- ▶ OT cleaning is done after each procedure which consumes time.

% ot utilized



Indicators for intensive care unit

- ▶ Urinary tract infection rate
 - ▶ Ventilator associated pneumonia rate
 - ▶ Blood stream infection rate
 - ▶ Surgical site infection rate
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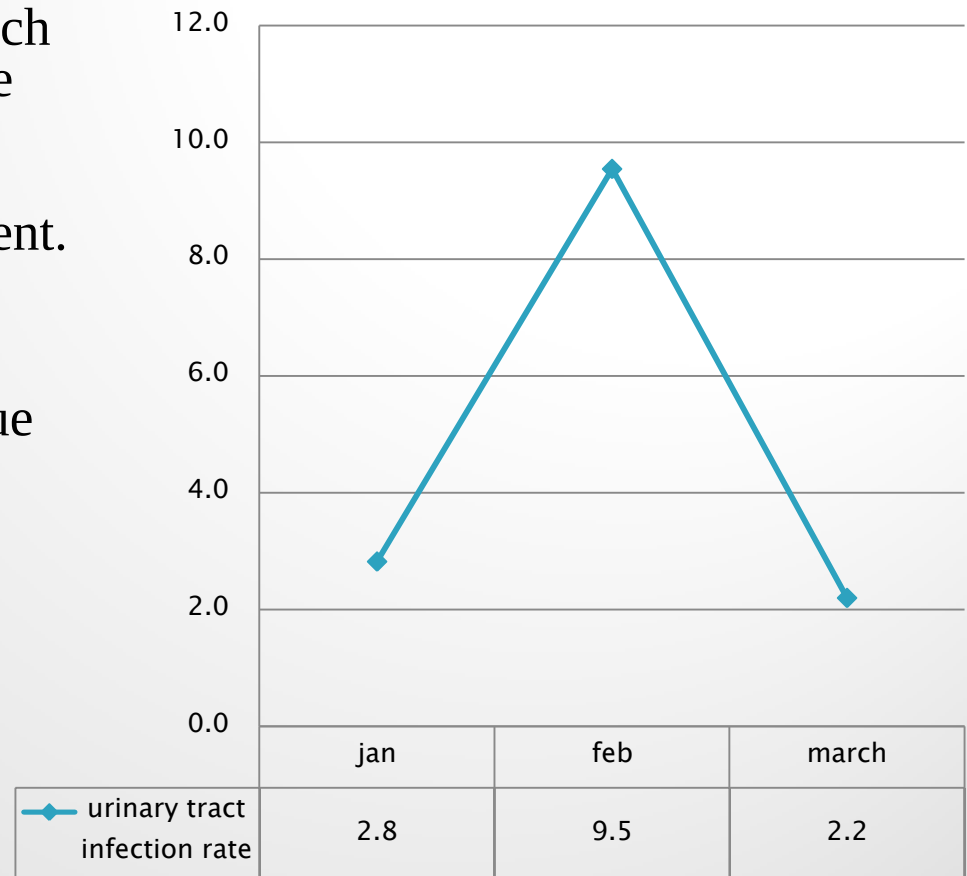
Urinary tract infection rate

Results- shows that UTI rate increased in February from 2.8% to 9.5% and then decreased in March till 2.2% but we need to improve upon the same so as to provide quality healthcare, with no secondary complications to patient.

Reasons-

- ▶ Fail to follow aseptic technique
- ▶ Negligence of staff
- ▶ Lack of hand hygiene
- ▶ No proper cleaning of urinary area

urinary tract infection rate

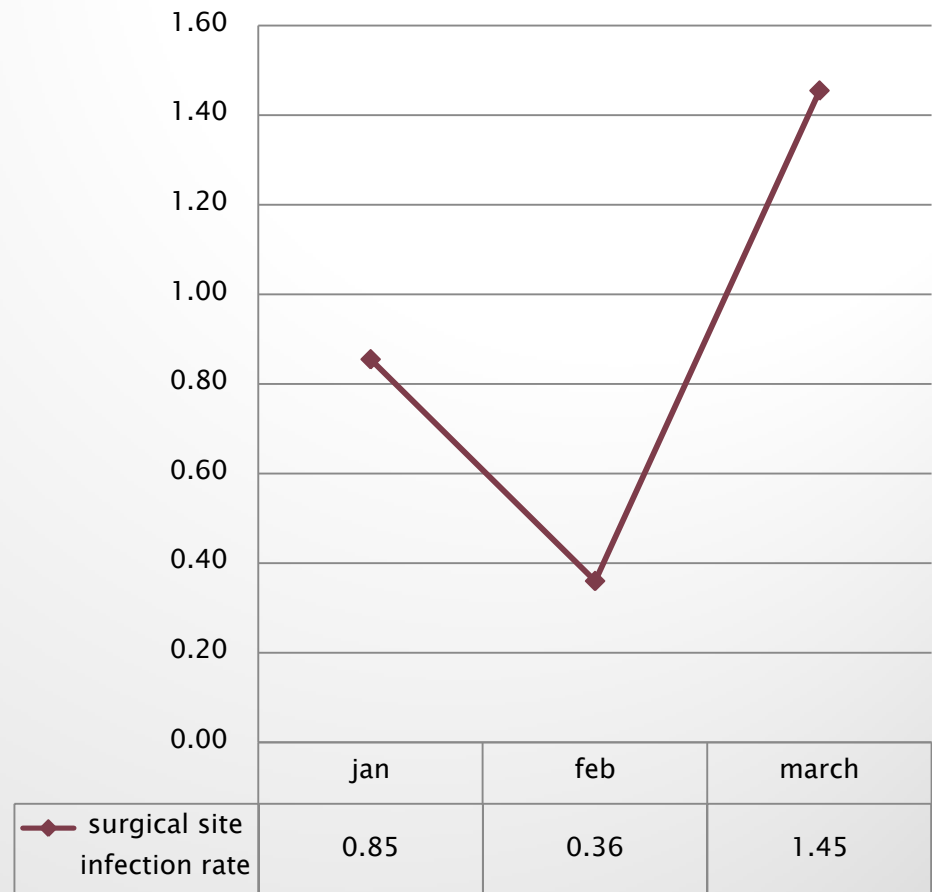


Surgical site infection rate

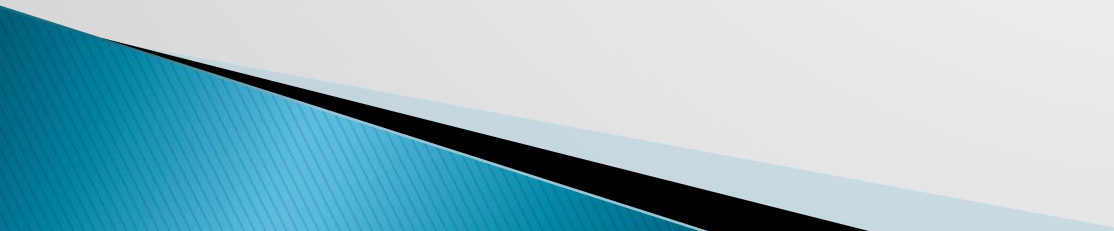
Results- shows that rate of surgical site infection decreased from January ie. .85% to February ie.0.4% but then increased in march ie. 1.5% which we need to improve upon.

Reasons- wound infection, patient not following proper antibiotic course, dressing not changed timely.

surgical site infection rate



Indicator for inpatient department

- ▶ Time for initial assessment of indoor patient by doctor
 - ▶ Percentage of Cases wherein Screening for Nutritional Needs has been done
 - ▶ Percentage of Inpatients wherein Nursing Care Plan documented
- 

Time for initial assessment of indoor patient by doctor

Jan- 50.3 min	Feb- 62 min	March- 64 min
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Results- shows that time for initial assessment of indoor patient gradually increased from January ie. 50.3 min to March ie. 64 minute.

And ideally it should be within one hour.

Reason- Only negligence of duty doctor could be assigned to this non- conformance, shortage of duty doctor

Percentage of Cases wherein Screening for Nutritional Needs has been done

Jan- 74%	Feb- 73%	March- 78%
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Results- shows that percentage of screening for nutritional needs increased from January ie. 74% to March ie. 78%.

Reasons-

Lack of accountability in dietician, shortage of dieticien

Increase workload on dietician, files not there

Patient safety indicator

- Incidence of medication error
- Percentage of adverse drug reaction
- Incidence of fall
- Incidence of bed sore after admission
- Incidence of needle stick injury

Incidents of Needle Stick Injury–

	No. of rental exposures	No. of inpatient days
Jan	0	3559
Feb	0	3731
march	7	3943

Results- shows that during march 7 incidents of needle stick injury has occurred.

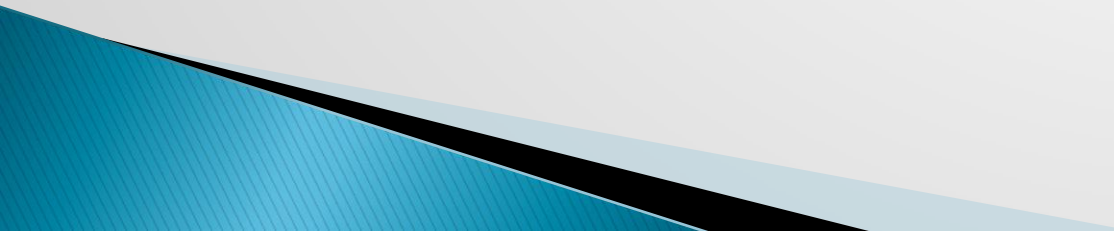
Reasons-

Negligence by staff

Recapping

Untrained new staff/ students, ward ladies

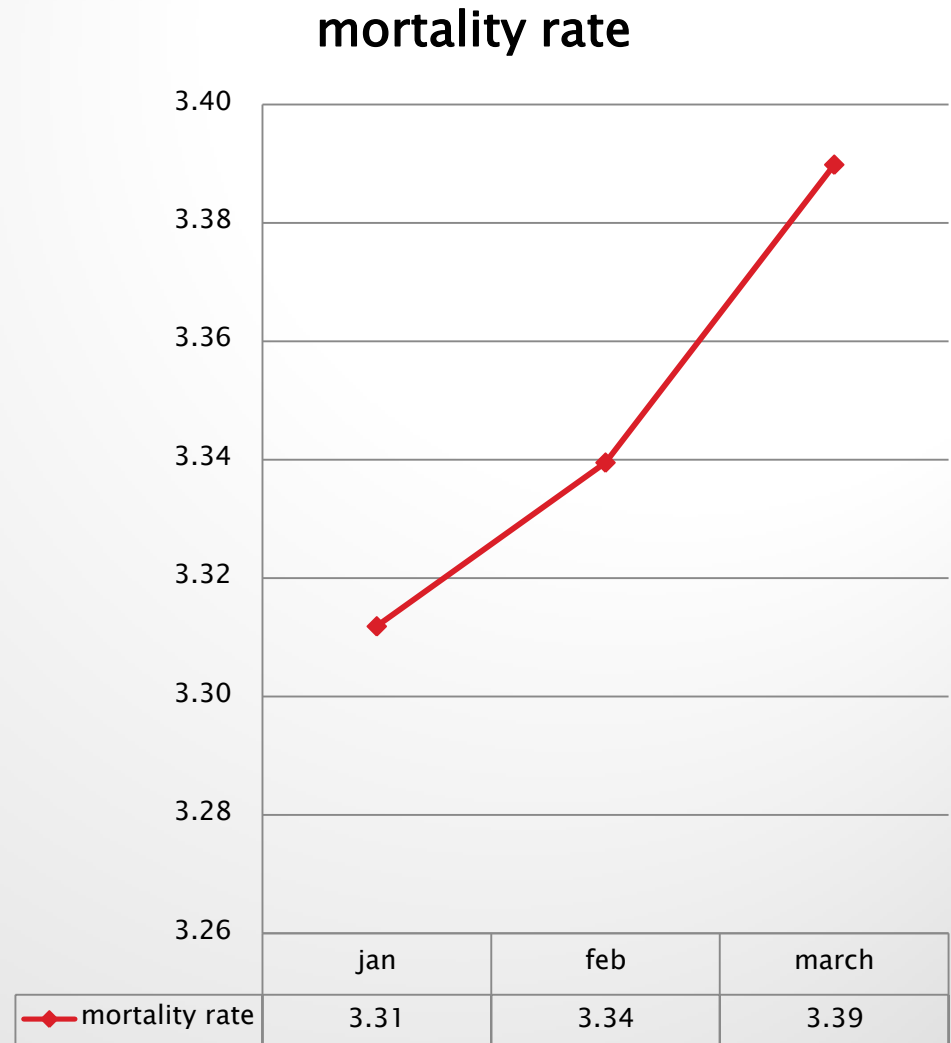
Indicators of medical record department

- ▶ Percentage of medical records not having discharge summary-
 - ▶ Percentage of medical records having incomplete consent
 - ▶ Percentage of missing records
 - ▶ Mortality rate
 - ▶ Bed occupancy rate
- 

Mortality rate

Results- shows that during study period mortality rate remain almost same ie. 3.3%

Reasons- terminally ill patient/ critical patient



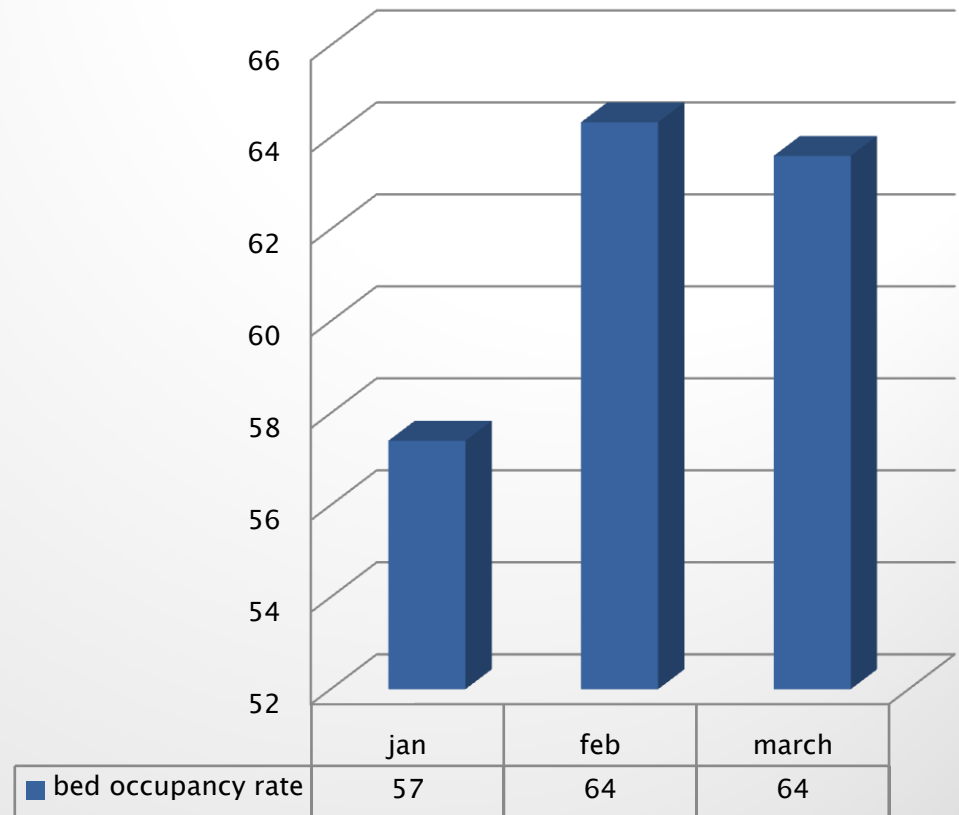
Bed occupancy rate

Results- shows that bed occupancy rate is increasing from January to march ie. 57.4% to 63.6% respectively.

Reasons-

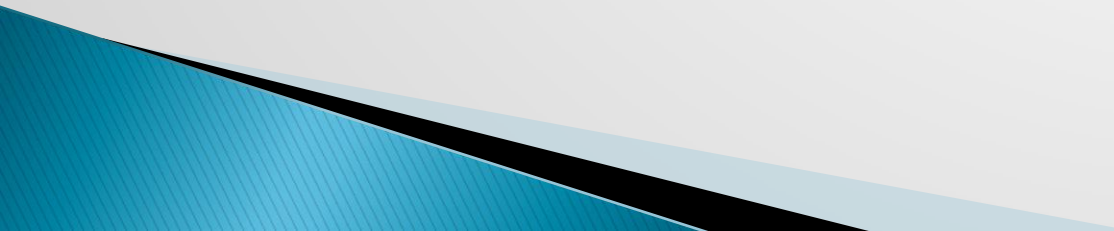
- ▶ OPD conversions are more
- ▶ Number of surgery has increased.

bed occupancy rate



Suggestions

- ▶ Only personnel with required technical qualification should collect sample for laboratory and regular training programmes should be organized for them.
- ▶ Regular calibration of equipment on due dates should be done.
- ▶ Proper handling of the sample should be done and it should be just turned gently and not vigorous shaking.
- ▶ In radiology, main reason is breathing which can again be reduced by proper communication to the patients as well as technicians.
- ▶ There should be complete co-ordination between doctors and nurses about status of patient to avoid re scheduling of surgery.
- ▶ The ice pack can be changed after 2 hour to maintain the temperature of blood bag in operation theatre for long surgeries.

- ▶ For operative patients who have an indication for an indwelling catheter, remove the catheter as soon as possible postoperatively, preferably within 24 hours, unless there are appropriate indications for continued use.
 - ▶ In the acute care hospital setting, insert catheters using aseptic technique and sterile equipment
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Conclusion

- ▶ Non-conformance could be due to various reasons. Shortage of man power, deficiency of trained manpower, injudicious work pressure, inadequate infrastructural and equipment support, lack of protocol, and personal issues are the few important causes of errors.
- ▶ By developing and using QI's to improve care for patients, general practice can strengthen its partnership and engagement with patients and with other sectors of our healthcare system.

Thank You

