Understanding Operation Theatre Services Utilization in a tertiary care hospital of India

First step towards improving efficiency & patient experience

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Introduction

Efficient use of operating room ensures improved patient flow, reduction in waiting time, decreased cancellations of surgical procedure, minimizes OT time overrun with consequent reduction of overtime staff costs, increased patient and staff satisfaction

Aim

To study the utilisation of Operation Theatres at AIIMS, New Delhi, India through examination of time consumed in different processes, so as to increase the overall efficiency.

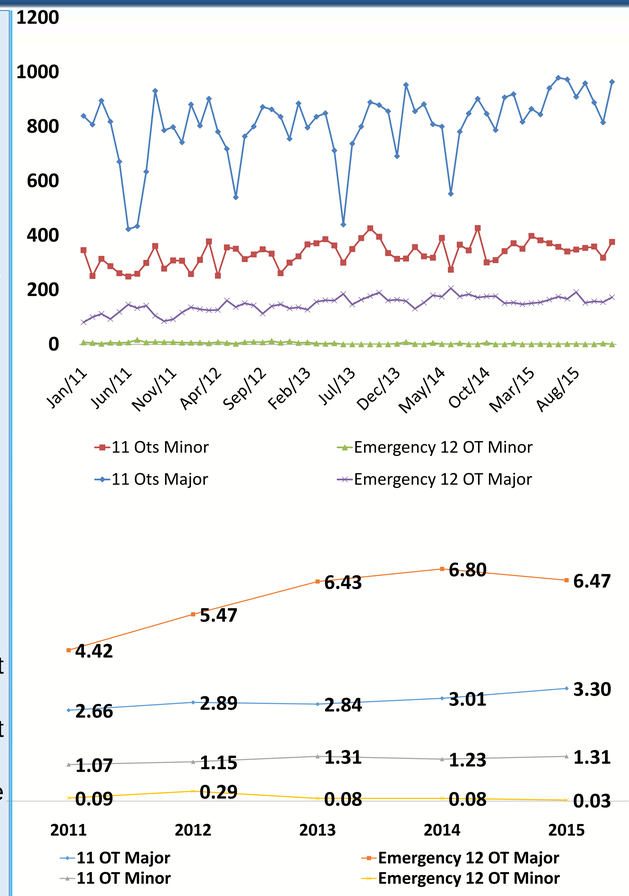
Methodology

- Prospective, observational and descriptive study
- OT complex of AIIMS Hospital, New Delhi, India
- OT Complex of 12 OTs (11 elective & 1 emergency proc)
- Retrospective analysis of the data (2011 to 2015)
- Time consumed in different processes was observed
- One OT suite for a full day (working hours) per week
- Observations over a period of six months
- Simple random sampling without replacement (chit system)- selection of OT & day of the week
- Observations were not made on Sundays & government Holidays
- If the observation day fell on a gazetted holiday, then the next working day was utilised for observation

Results

Year 2011-15

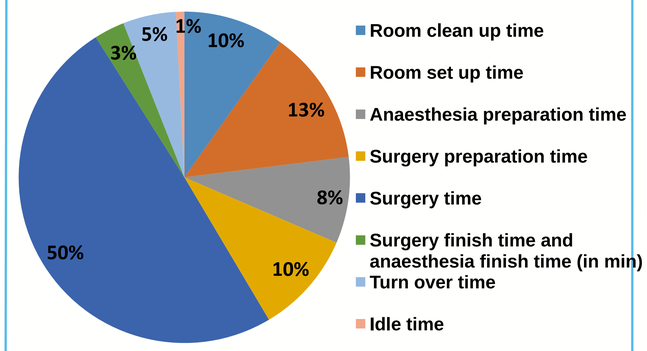
- Total of 68486 elective surgical procedures
- Total of 9102 emergency operative procedures
- 19.10% Increase in elective surgical operations
- Emergency surgeries have increased by 27.64%

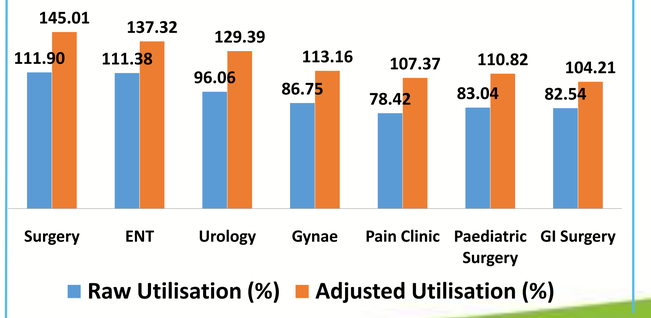


During study period

- 129 (69.34%) of 186 scheduled surgeries were done
- An average of 4.61 surgeries per day (Range 2-13).
- 60.47% - major surgeries (avg. of 3.12./day) & 39.53% - minor surgeries (avg. of 3.92/per day).

- 72% surgeries were planned
- 92% - Late shifting of the patient to the OT was the most common cause for the delayed start of the OT.
- Average late start of OR was 7 minutes
- Overall average late closure of OR was 111.04 min.
- Minor cases were performed by residents after the General anesthesia time was over which resulted in list over runs
- No minor surgeries were performed in Pediatric surgery, Gynecology and GI surgery.





OT Utilization

- ***Overall total raw utilization was 99.29%***
- ***Overall total adjusted utilization was 128.53%***
  (Total resource hours - 15,000 min)

Cancellation rate

- *30.65% cancellation rate observed in surgeries*
- *35 % cancellation rate for major surgeries*
- *In minor surgeries, 22.73% cases were cancelled.*
- *Lack of operating time because of the improper scheduling was the commonest reason for cancellation of major surgeries*
- In minor surgeries, the commonest reason for cancellation were outdoor patients not reporting on the day of surgery
- Cancellation Reasons for major surgeries - surgeon related 74%, medical related 17%, patient related 7%, and administrative/ logistics related 2%.

Conclusion

High utilisation was observed due to high patient load and long waiting list for surgery in some specialities. To utilise the OT fully, over scheduling and duplication in the OT list is being done which in turn leads to higher cancellation rate.

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