A study on time utilization & scheduling of operation theatre

Guided By:

Dr. S D Gupta

President

Submitted By:

Dr. Shweta Choudhary

MBA-Hospital Management

Batch- 18

Roll no. - 1503

About Hospital

- Apex hospital is multispecialty Private hospital in Rajasthan.
- Established in 1994.
- It has 200 beds and over 58 critical care beds with 4 operation theatres catering to over 20 specialties
- Apex hospital is authorized by state government and many other institutes

Vision and mission

- **VISION:** To deliver quality conscious and technology driven contemporary healthcare across segments, in an environment that is oriented towards patients and staff needs with all endeavors to ensure contentious education and training for a multi faceted personal and linear organizational growth.

- **MISSION:** To provide holistic quality care at a minimal cost in a hygienic environment with perseverance, dedication and compassion.

Clinical Departments

- Anesthesiology
- Intestinal surgery
- General medicine
- Obstetrics and gynecology
- Ophthalmology
- Pediatrics and neonatology
- Gastro
- orthopedics
- Physiotherapy
- Dietetics

- **Other Clinical Services**
- Intensive Care Services
- Operation Theatre
- Endoscopy
- **Diagnostic Services**
  - Laboratory Services
  - ECG(Electrocardiogram)
  - 2D Echocardiography
- **Diagnostic Imaging**
  - X – Ray
  - Ultra sonography
  - Single slices CT Scan
  - 0.3 Tesla MRI

Non Clinical and Administrative Services

•Biomedical Engineering
•CSSD
•Housekeeping
•Human Resources
•Laundry
•Engineering, Maintenance Security
•Purchase & Stores
•Accounts and Finance
•Registration counter/ Reception/ Billing and TPA
•Medical Records Department

LEARNINGS from the training

- Understanding of the process flow of Operation Theatre.
- Gap identification & Gap analysis of operation theatre of the hospital for quality improvement.
- Implementation of the quality process in OT
- Prepare the action plan.
- Formation of guidelines to streamline the process of operation theatre

Aim of study

To perform a thorough and step-by-step assessment of operating rooms (OR) time utilization, with a view to assess the efficacy of our practice and to identify areas of further improvement

Objective of study

- To examine the time utilization & scheduling of operation theatre.
- To identify the bottle necks, if any, in proper and efficient utilization of Operation Theatre time.
- To suggest remedial measures for improving the Operation Theatre time Utilization.

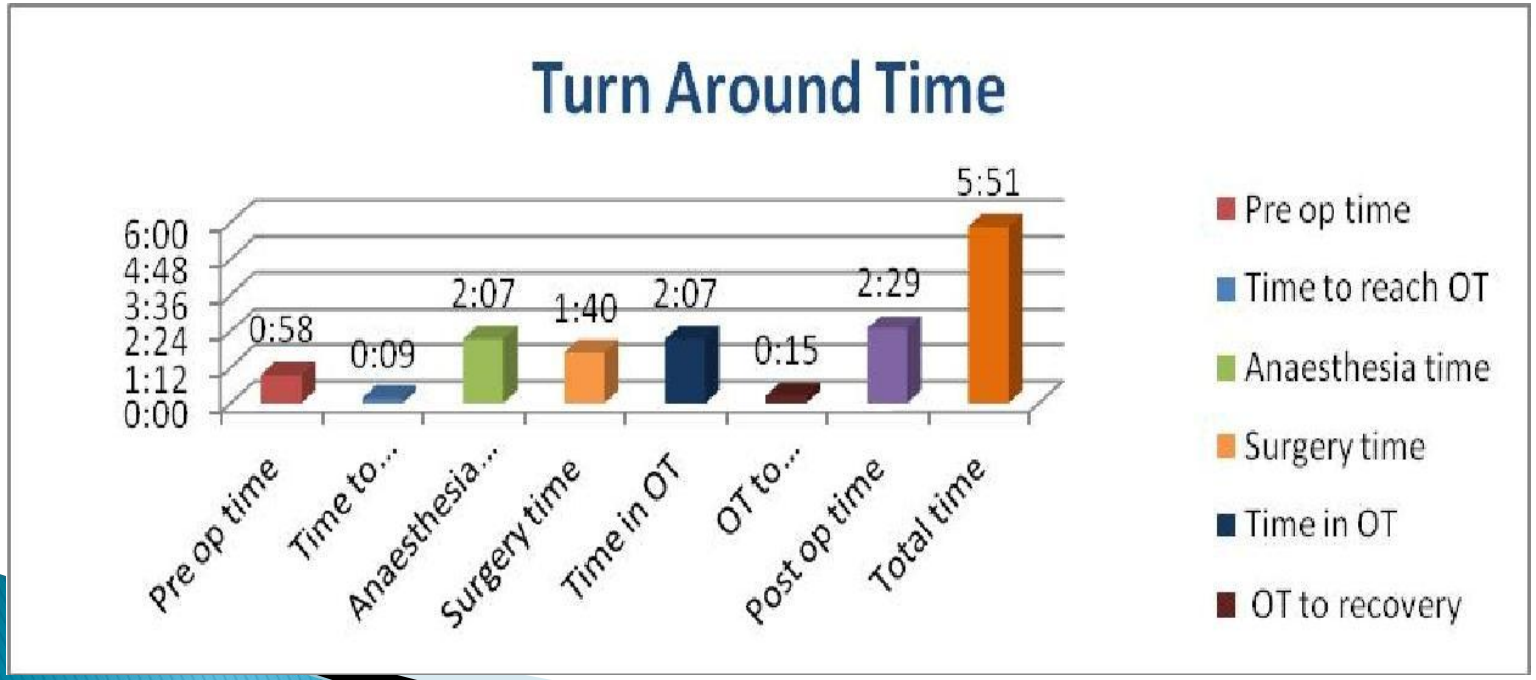
Methodology

- Study area-Operation theatre
- Sample size-536 cases
- Study duration-60 days
- Sampling-100% sample was taken from 1st march to 30^{h} April 2015

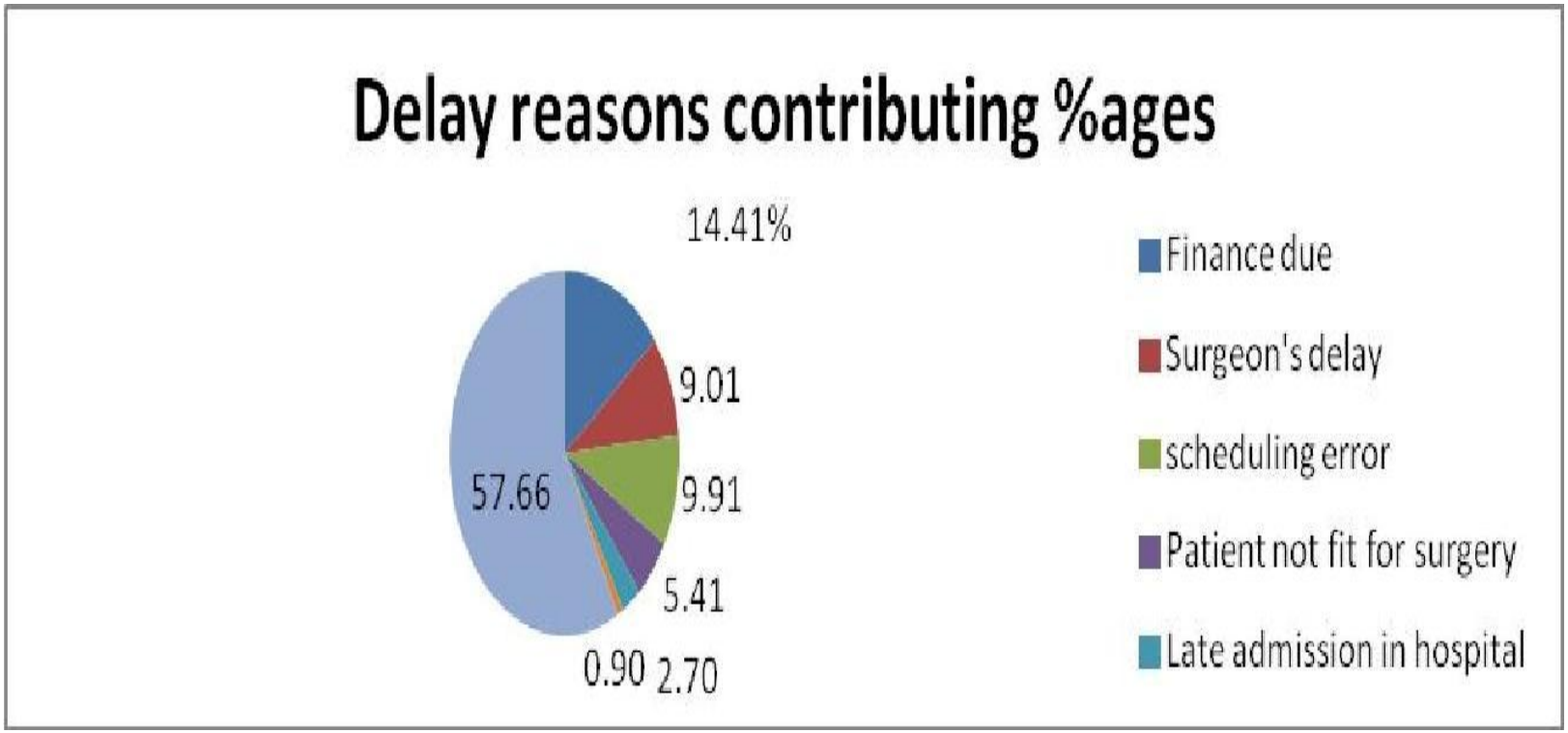
- Data collection:-
  - Primary data source: By direct observation of the processes and discussion with the staff and team members.
  - Secondary data source: Review of O.T registers.

Observations and interpretations

The total time calculated as pre op time+ Time in OT + time from OT to recovery + Post-op So, the turnaround time comes to be approx. 5 hrs and 51 min.

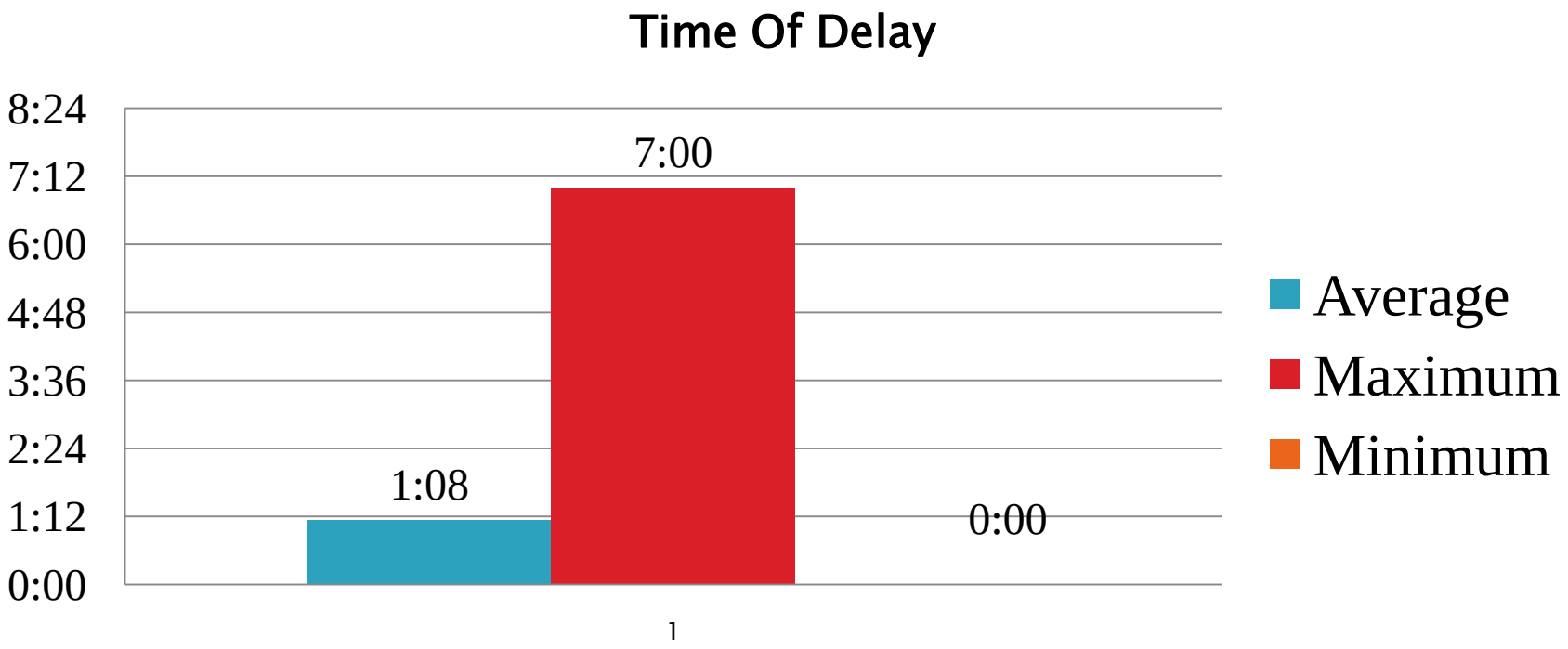


Reasons of delay in cases



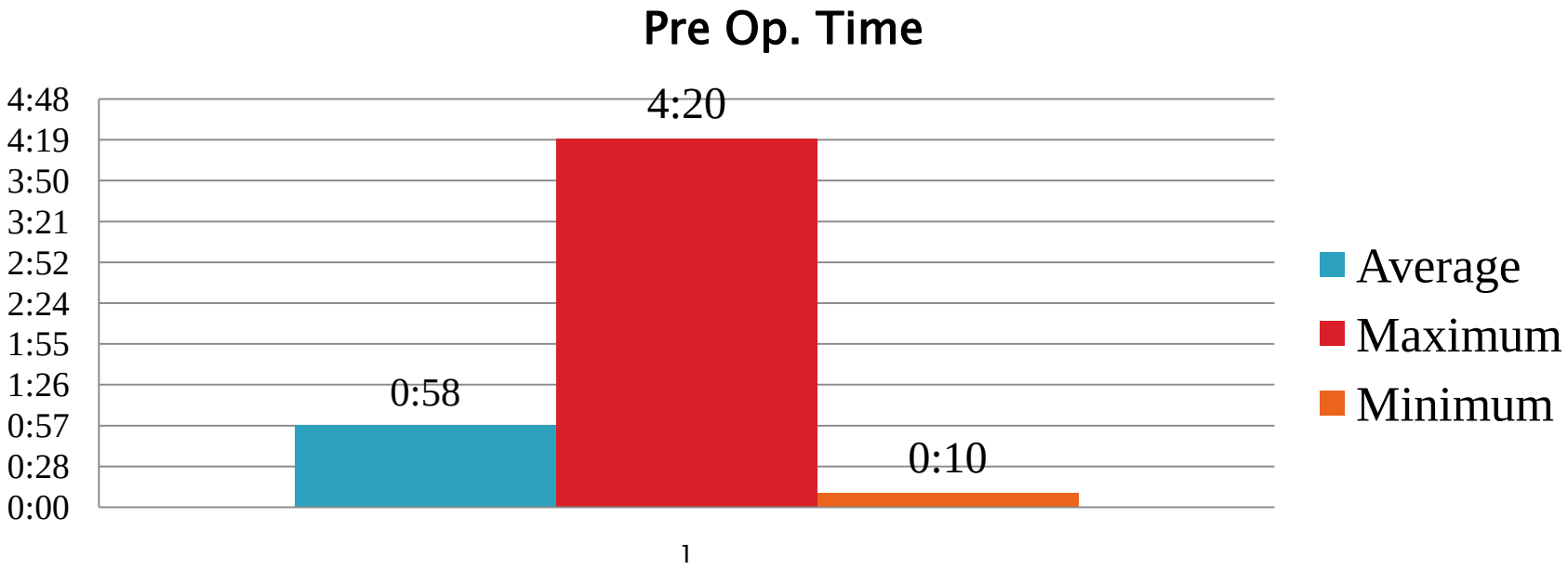
Four major reasons for delay in decreasing order of percentage are financial, scheduling errors, surgeons' related and patients' related reasons.

Time of delay



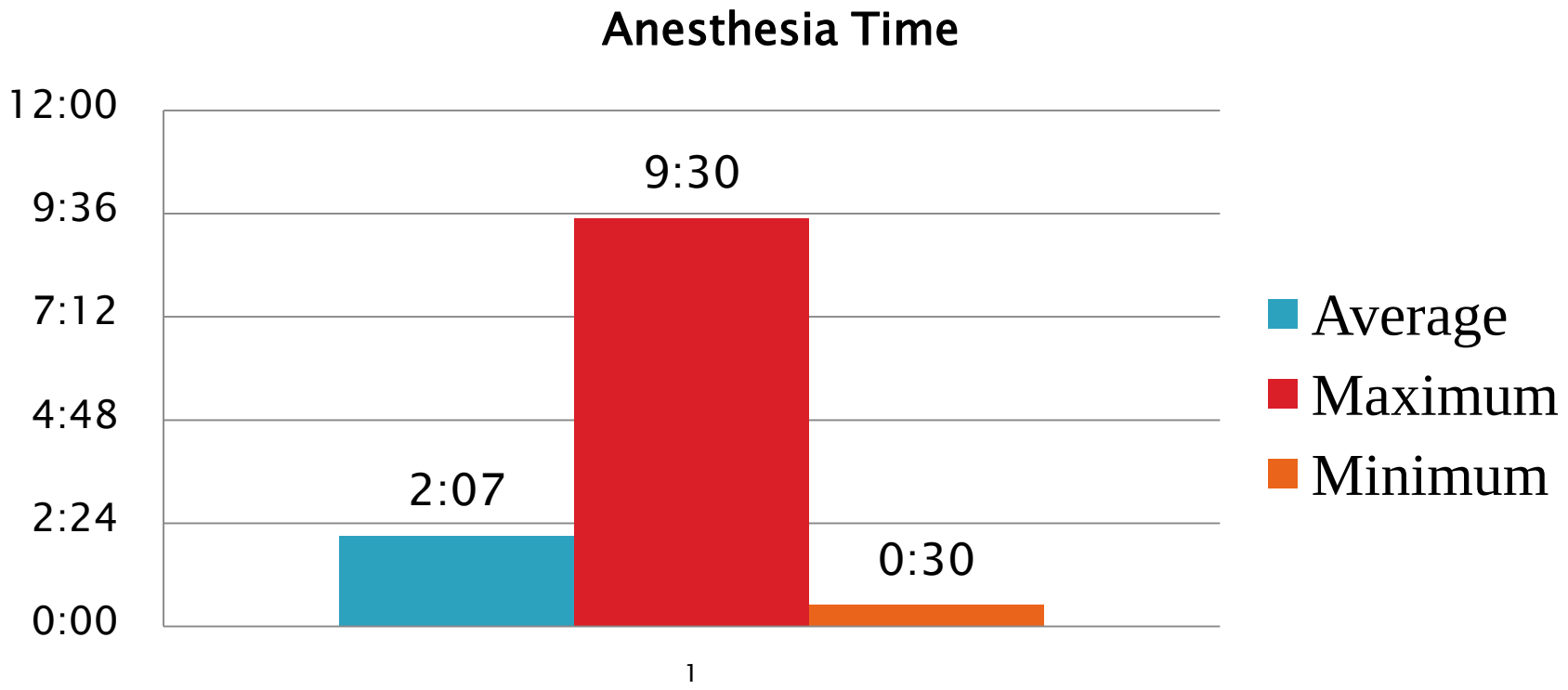
On an average every surgery is delayed by 1 hour and 08 minutes. Maximum delay occurs during Orthopedics surgeries like Open Reduction and Internal Fixation because approval for TPA patients is delayed due to TPA procedures.

Pre op. time



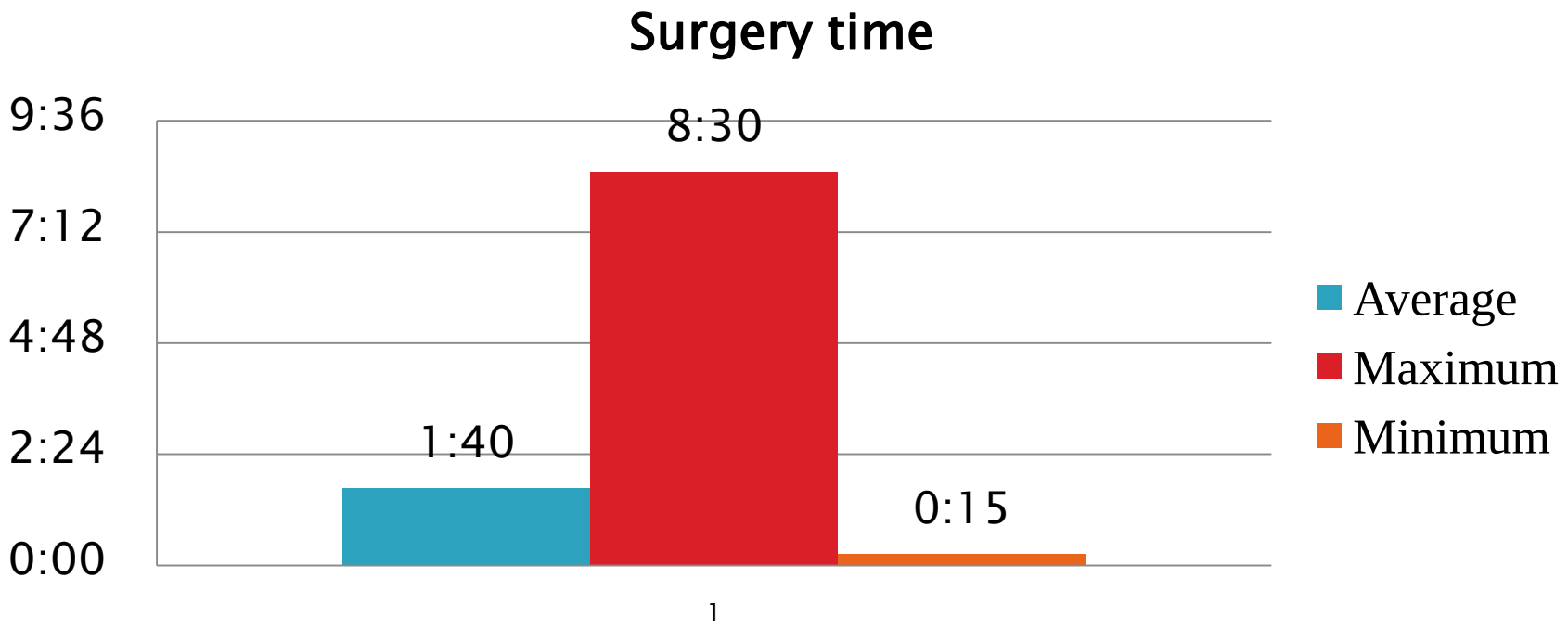
On an average every patient keep in pre op recovery ward by 58 minutes.

Anesthesia time



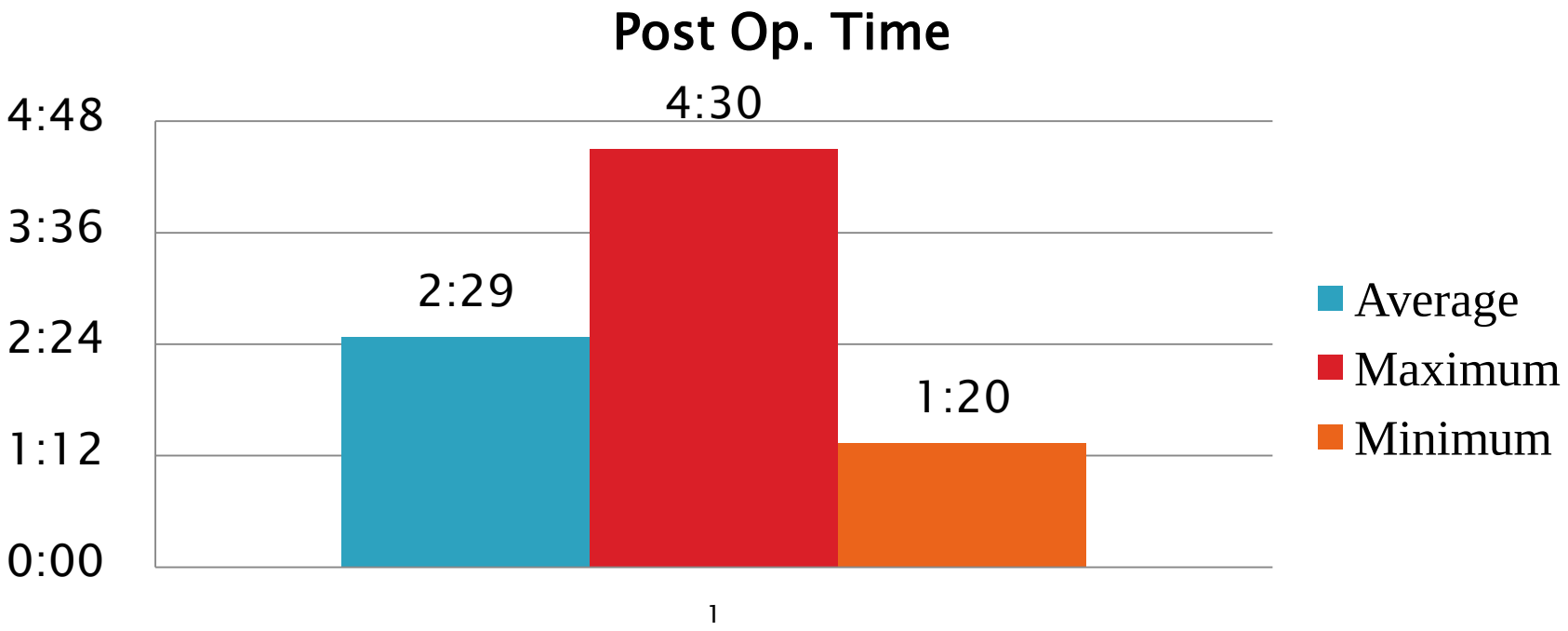
On an average every patient has taken time for anesthesia by 2 hours7 minutes. Maximum, minimum anesthesia time depends upon the kind of (major / minor) surgeries.

Surgery time



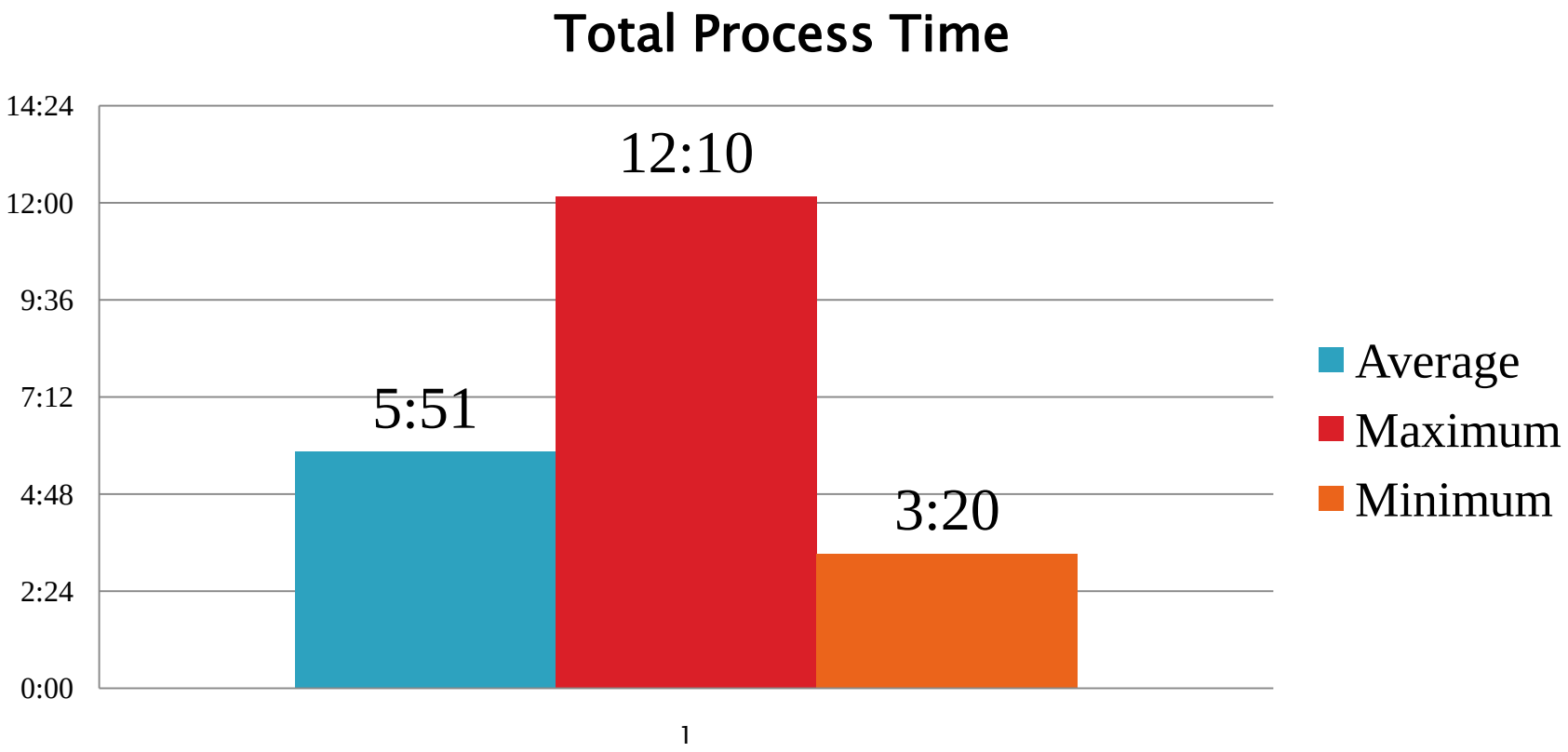
In major surgeries like Neuro (spine) & orthopaedic (B/L TKR, THR) surgeries may taken maximum time for surgery

Post op time



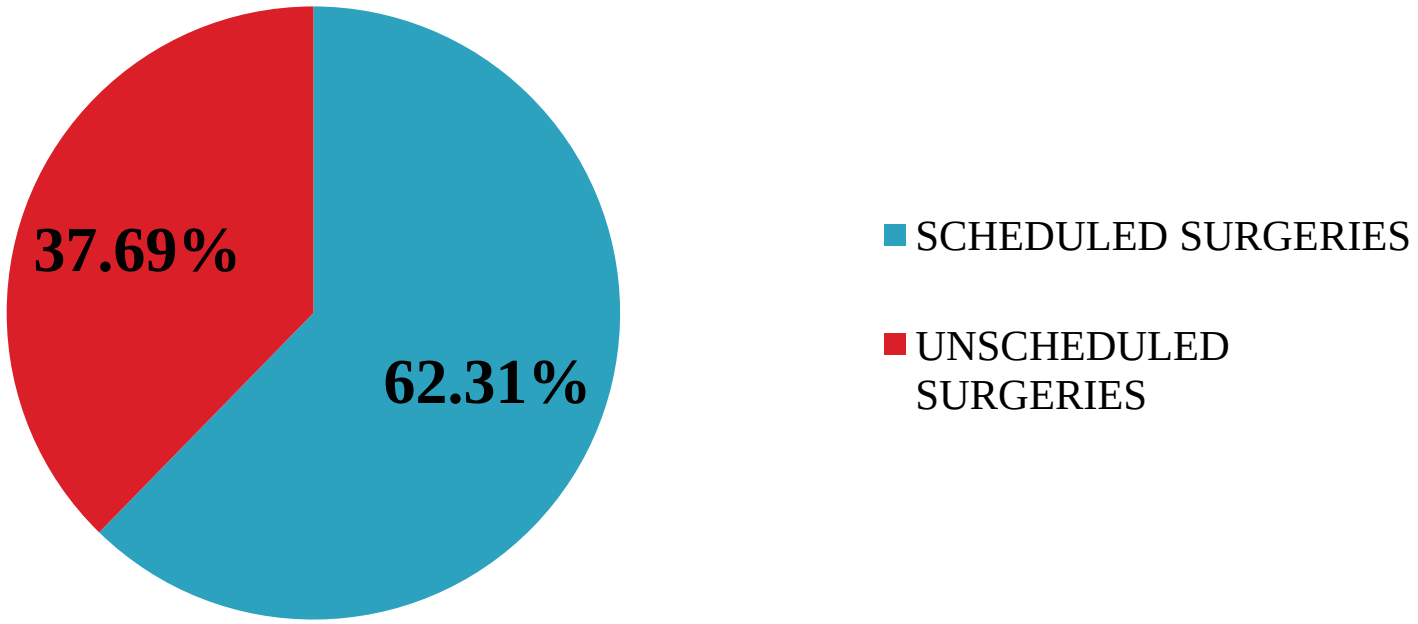
post op stays in the recovery ward depends upon the kind of surgery the patient undergoes, if the surgery is major like brain surgery on that case patient may require post op stays long duration.

Total process time



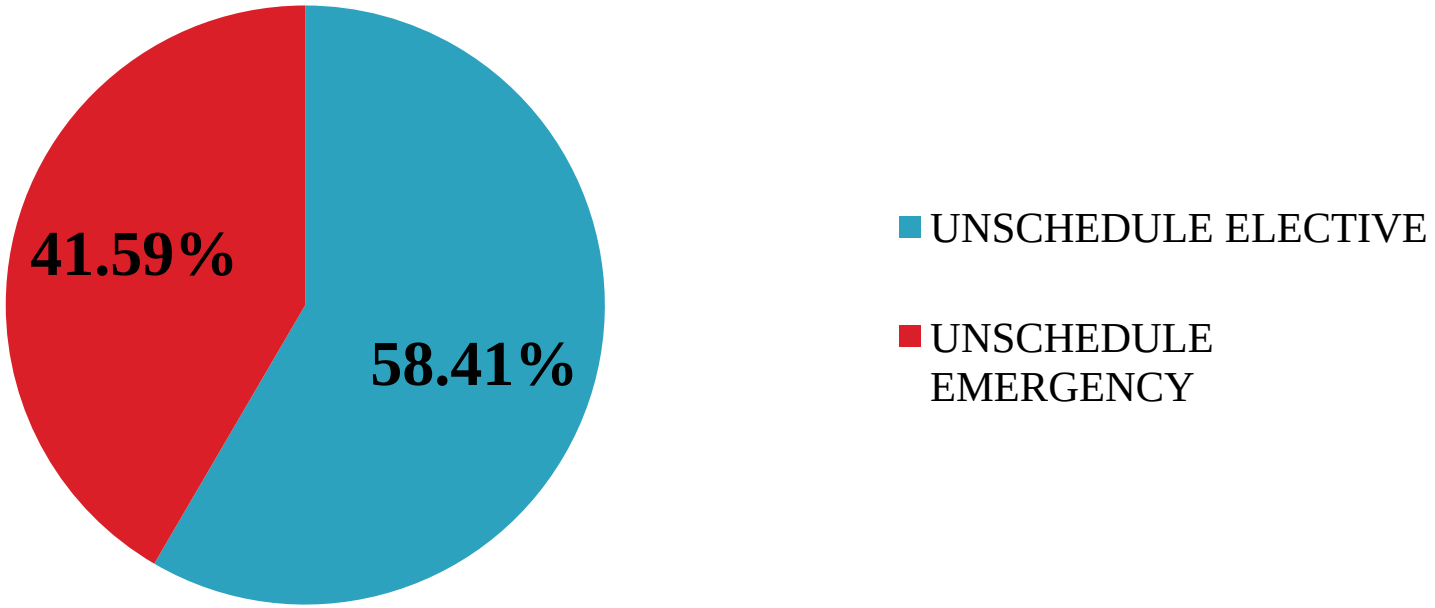
Average total process time is 5:51 hr. In major surgeries like Neuro (spine) & orthopaedic (B/L TKR, THR) surgeries may taken maximum time for surgery

Scheduled unscheduled cases analysis



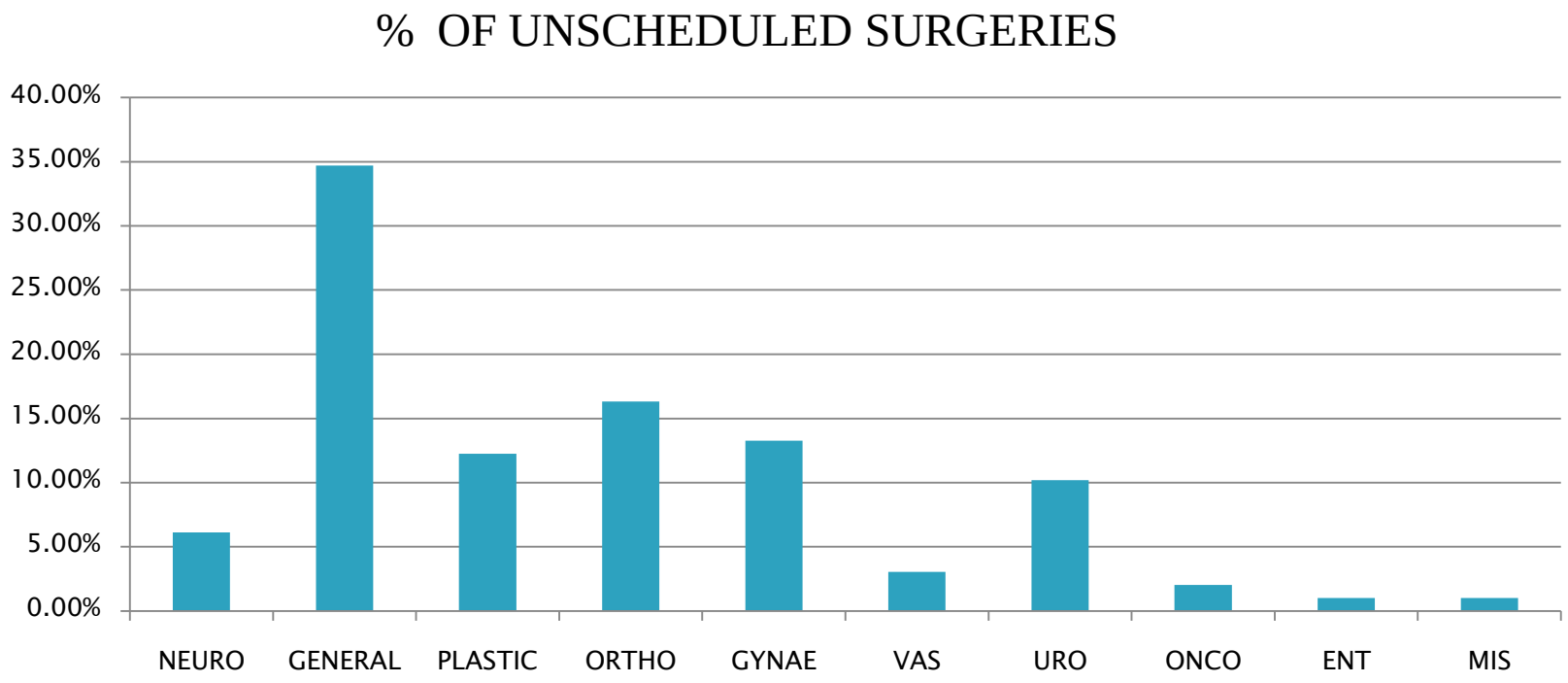
Delayed admission and late intimation in OT results in increase no of unscheduled elective cases.

Contd…



cases of general surgeries were unscheduled mostly because of delayed admission.

Specialty wise %ages of Unscheduled Elective Surgeries



General and Ortho cases are unscheduled more as there is late intimation in theatre about surgeries plan

Recommendations

- Perform all the minor procedures in minor O.T.'s attached to the OPD.
- The first case to be done in OT must be In-house so that delay because of late admission of the patient in the hospital can be avoided.
- More trolleys are needed to shift the patients in and out of M.O.T. Complex.
- The Anesthesia and other equipment must be made ready by the assisting staff so that the O.T. starts on time.

Contd…

- There should be a theatre's users committee with a set of rules and responsibilities.
- There should be a policy document for operation theatre that should be reviewed regularly.
- Management Information to use theatre resources efficiently and effectively.
- Hospital should consider making use of analysis and measures of theatre utilization as a starting point for benchmarking.
- First case should reach O.T. in time from the ward, to allow the O.T. to be started on time.

Conclusion

- The utilization time of existing OT complex is 72% and the maximum possible OT utilization by global standard ranges from 85% to 90%. So, there is a gap of 13% to 18%. This gap is due to delay of approximately 1 hour in OT timings in the existing setup. The major reason for this delay can be attributed to TPA cases in which approval is required in orthopedic cases. So, the gap can be fulfilled i) by scheduling TPA orthopedic cases properly and ii) by increasing the shifts from 2 to 3.

Thank you