

“A STUDY OF TURN AROUND TIME OF DISCHARGE PROCESS OF INSURANCE PATIENTS IN A TERTIARY MULTISPECIALITY HOSPITAL”

Dissertation Organization:
Jindal Institute Of Medical
Sciences, Hisar, Haryana

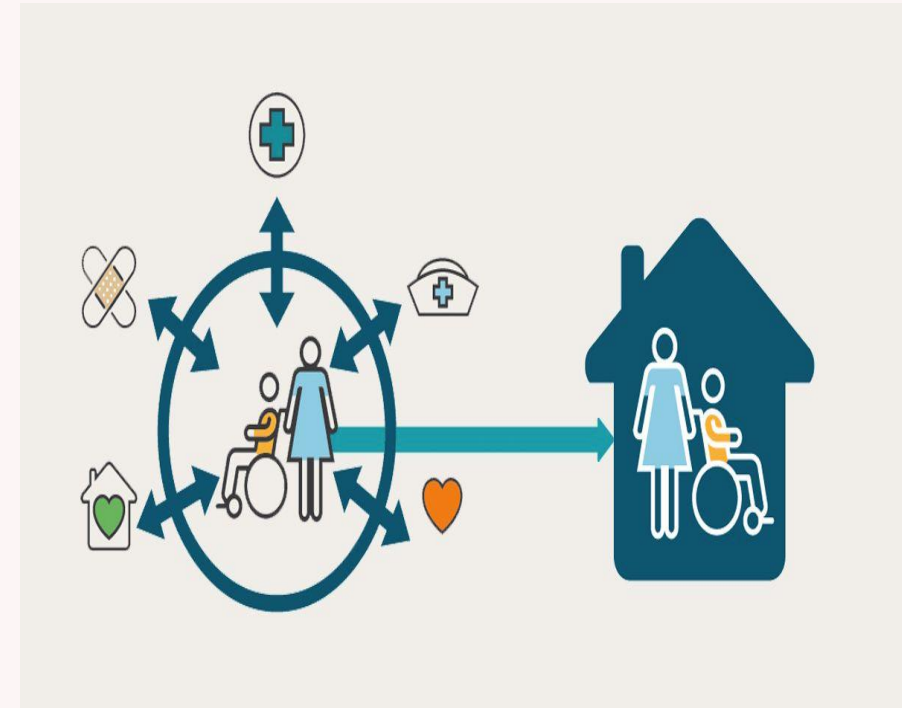


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Submitted To: **Dr. Piyusha Majumdar**

INTRODUCTION

- According to a national Ministry of Health and Family report, only 15.2% of India's population has health insurance.
- Of this, 2.3% are covered by commercial insurers, while 12.8% rely on government-funded schemes.
- Insurance coverage is lower in rural areas (14.1%) compared to urban areas (18.0%). However, government-supported schemes have slightly higher coverage in rural areas (13.1%) than in urban areas (12.0%).
- Private hospitals are experiencing an increased patient load from individuals with commercial insurance, who have high expectations for service quality and low tolerance for subpar care.
- The discharge process turnaround time (TAT) is a key metric for assessing hospital efficiency and quality. Discharge is defined as the release of a patient by the attending physician after necessary medical care.
- Delayed discharge causes significant physical and psychological hardship for patients and their relatives.



Review Of Literature

S.NO	AUTHOR	YEAR	TITLE	FINDINGS
1.	Rajendu Srivastava Bryan L. Stone, Raza Patel, Matthew Swenson, Andrew Davies, Christopher G. Maloney, Paul C. Young, Brent C. James	2009	Delay in discharge in a tertiary care pediatric hospital	Physician decision-making was identified as a major contributor to discharge delays in the study. This included overly cautious treatment approaches and inconsistencies in clinical decisions. The research highlighted the significant impact of these delays on both patient LOS and overall healthcare costs. To address this issue, the study recommends: More efficient discharge planning: Streamlining the discharge process to minimize delays, Timely scheduling of consultations and diagnostic tests.
2.	Kasturi Shukla, Shrishti Upadhyay	2018	Predictive Modelling for Turn Around Time (TAT) of Discharge Process for Insured Patients in a Corporate Hospital of Pune City	The study identified two key factors contributing to discharge delays for patients with health insurance: slow preparation of discharge summaries, especially for those with extended hospital stays and delays in final bill approval by insurance companies. To address these issues, the study recommends that hospitals focus on timely completion of discharge summaries, Proactive report submission, Efficient query resolution.
3.	A Sing, P Ravi, K Lepcha	2019	Insured patient discharge delay: Causes and Solution	This study investigated the factors affecting discharge times for insured patients. Researchers employed two statistical methods, bivariate correlation and unadjusted linear regression. These techniques helped identify how different sub-processes within the discharge process relate to Overall discharge times. Pareto analysis was then used to analyze queries received from external TPAs. The biggest slowdowns for insured patients getting discharged were: Getting discharge summaries to the in-house TPA department on time, waiting for external insurance companies to approve final bills and summaries.
4.	Jenyz M Mundodan, KS Sarala, V Narendranath	2019	A Study to Assess the Factors Contributing to Delay in Discharge Process in a Teaching Hospital	A time motion study at a teaching hospital examined the discharge process for 69 patients. The study identified bottlenecks that were significantly impacting discharge times. Key Bottlenecks were identified and what came forward was that the main culprit was the time-consuming preparation of discharge summaries. Additionally, delays were found in, retrieving patient charts from the ward for billing purposes, Communicating the final bill amount to patients. These bottlenecks were found to be the major reasons for slow discharge times.

5.	Alexander Micallef, Sandra C. Buttigieg, Gianpaolo Tomasell, Lalit Garg	2020	Defining Delayed Discharges of Inpatients and Their Impact in Acute Hospital Care: A Scoping Review	This study reviewed 64 relevant research articles to develop a clear definition of "delayed discharges" in acute care hospitals. It also created a model that illustrates the connections between causes and effects of these delays. The research suggests that implementing preventive measures and changes within acute care settings can significantly reduce delayed discharges. This, in turn, would lead to several benefits, including, improved bed availability, reduced emergency department overcrowding, strengthened partnerships between hospital and community care, and decreased healthcare waste and costs.
6.	Dr. Renny Thomas, Ashwini Malviya, Dr. Ankita George, Tony Thomas, Gayatri	2021	Process mapping of insurance department and analysis of denial with respect to department	This study investigated the challenges faced by cashless patients in the insurance claim process by mapping the workflows of insurance departments and analyzing claim denials. The research identified several key factors contributing to both discharge delays and claim rejections. Causes of discharge delays that came forward were lack of coordination between hospital staff, technical issues, discrepancies in medical documentation. The study also pointed out the reasons for claim rejections that were Policy coverage limitations, Exhausted limits, Incomplete prescribed years, Unjustified hospitalizations, discrepancies in medical documentation.
7.	Jatin Kumar	2022	A Study of the Causes of Delay in Patient Discharge Process in a Large Multi-Specialty Hospital with Recommendations to Improve the Turnaround Time (TAT)	The study analyzed the discharge process for 100 inpatients, comparing cash-paying patients with those using insurance. Pareto analysis was used to pinpoint the biggest contributors to discharge delays for insured patients. The study then compared the proposed turnaround time (TAT) for discharge with the actual time it took for insured patients to be discharged. This comparison helped identify areas for improvement. Finally, the study offered recommendations for streamlining the discharge process. These recommendations addressed specific departments and highlighted the importance of better coordination among all departments and stakeholders involved. This collaborative approach is crucial for a smoother discharge experience for insured patients.
8.	Ms. Anupam Sukumar, Prof G Senthil Kumar, Mr. R.J.T. Nirmal Raj	2023	Identification of causes of delay in in patient discharge at a multispecialty hospital	This research employed a quantitative approach, utilizing a standardized checklist to evaluate the discharge process in the Inpatient Department. The study identified several areas for improvement to expedite patient discharge. Qualified Discharge Summary Personnel, Standardized Physician, Proactive Insurance Approval. Leverage Pareto analysis to identify potential insurance approval issues and plan accordingly to avoid delays. The study suggests significant improvements in the discharge process, leading to faster patient throughput and reduced wait times.
9.	Ms. U. Suji, A. Magalingam	2023	A study on delays in insurance patients discharge at a multispecialty hospital in Kerala.	This study, involving 202 patients, monitored their discharge process using various metrics. The findings highlighted the potential of technology and improved communication channels to streamline the discharge process and minimize delays. The study also proposed specific improvement areas that, if implemented, could significantly enhance the operational efficiency of discharging patients.

AIM & OBJECTIVE

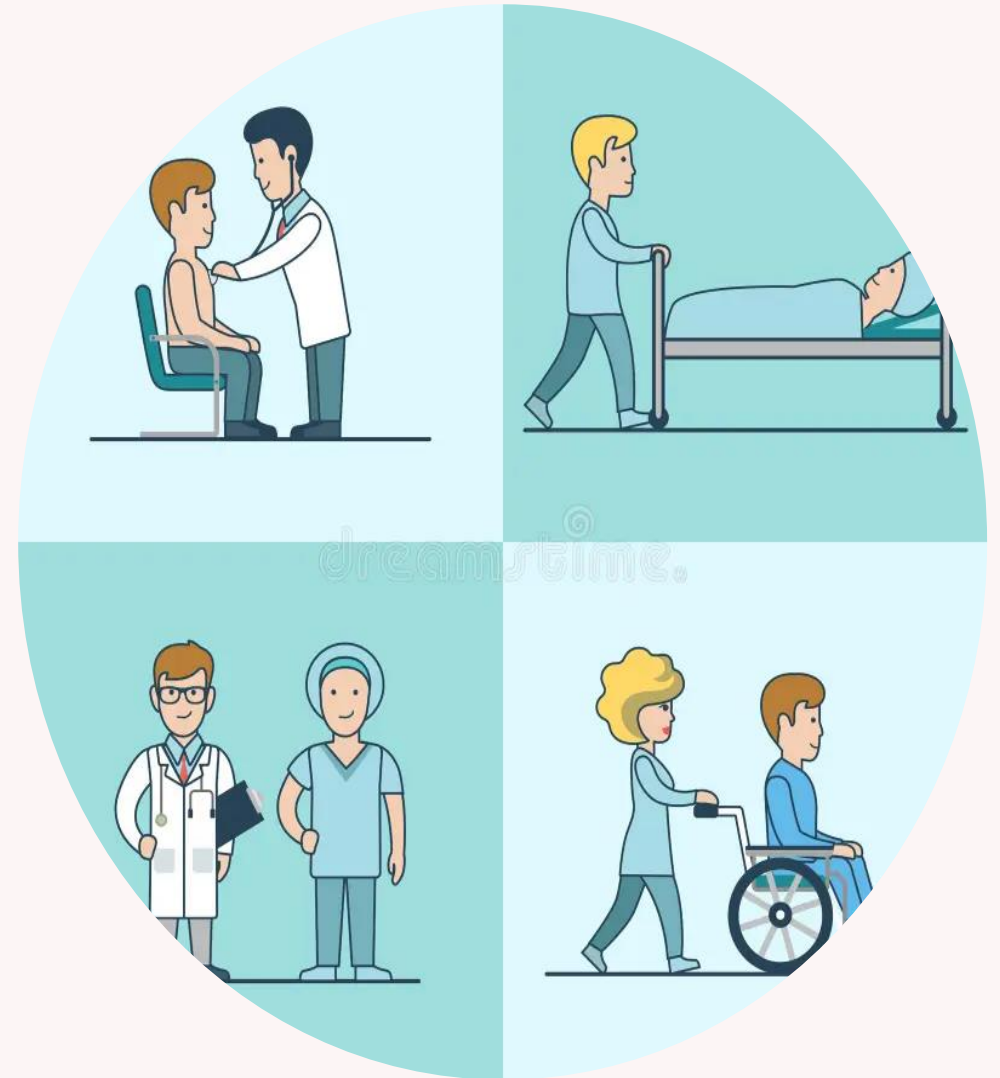
AIM: To evaluate the discharge process for insured patients in a tertiary multispecialty hospital, identify the major causes of delays, and recommend solutions to reduce these delays.

OBJECTIVE: The two primary objectives of the study are:

1. To calculate the turnaround time (TAT) of the overall discharge process for insured patients and identify bottlenecks in the subprocesses in order to streamline the discharge process.
2. Collect and analyze all queries received from external TPAs during the discharge process. This will include categorizing these queries based on the information they request.

SUB OBJECTIVES:

1. To compare the observed turnaround time (TAT) for each subprocess with the hospital's ideal TAT.
2. To quantify the number and duration of delays in each subprocess.
3. To identify the departments experiencing the highest delays in the overall discharge process.



RESEARCH METHODOLOGY

Study Design: Observational Prospective Study design

Study Setting: Jindal Institute of Medical sciences, Hisar, Haryana

Study Population: 250 patients

1. INCLUSION CRITERIA:

Discharge of patients who opted for cashless hospitalization between working hours, Consideration of only private/GIPSA Insurance patients

2. EXCLUSION CRITERIA:

Discharge initiated in the time after working hours), cash, ECHS, Haryana government patients not included in study

SAMPLE SIZE: 250 patients

SAMPLING TECHNIQUE: Nonprobability convenient sampling technique

Ethical Consideration: Informed consent will be obtained from all participants before data collection. Participant anonymity and confidentiality will be ensured throughout the study.

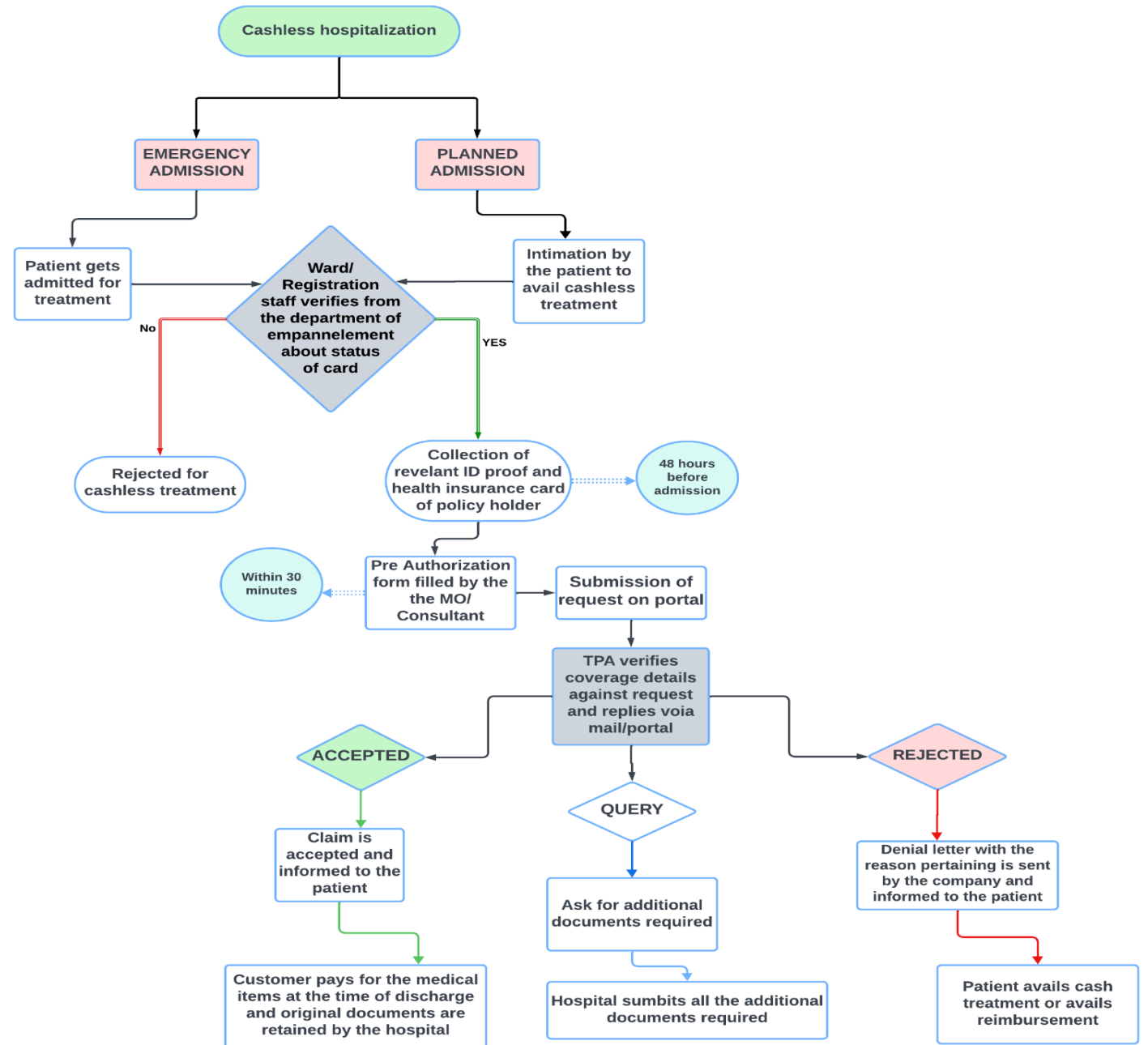
Turn Around Time	Elaboration	Data Collection Tool	Technique
TAT 1	Time taken for the discharge summary to be delivered from the ward to the in-house TPA department	Observation	Observation
TAT 2	Time taken to forward the final Authorization Letter (AL) to the external TPA department	Through track sheet	Shadowing
TAT 3	Time taken to address and resolve any generated queries	Email timing	Shadowing
TAT 4	Time taken by the external TPA to provide final approval after receiving the AL	Email timing	Shadowing
TAT 5	Time taken for the final patient discharge after receiving approval from the external TPA	Register Maintained	Observation
TAT 6	Total time for the discharge process, beginning with the doctor's approval and ending with the patient leaving the clinical unit	Addition of TAT 1, TAT 2, TAT 3, TAT 4, TAT 5	

Data Collection Tool

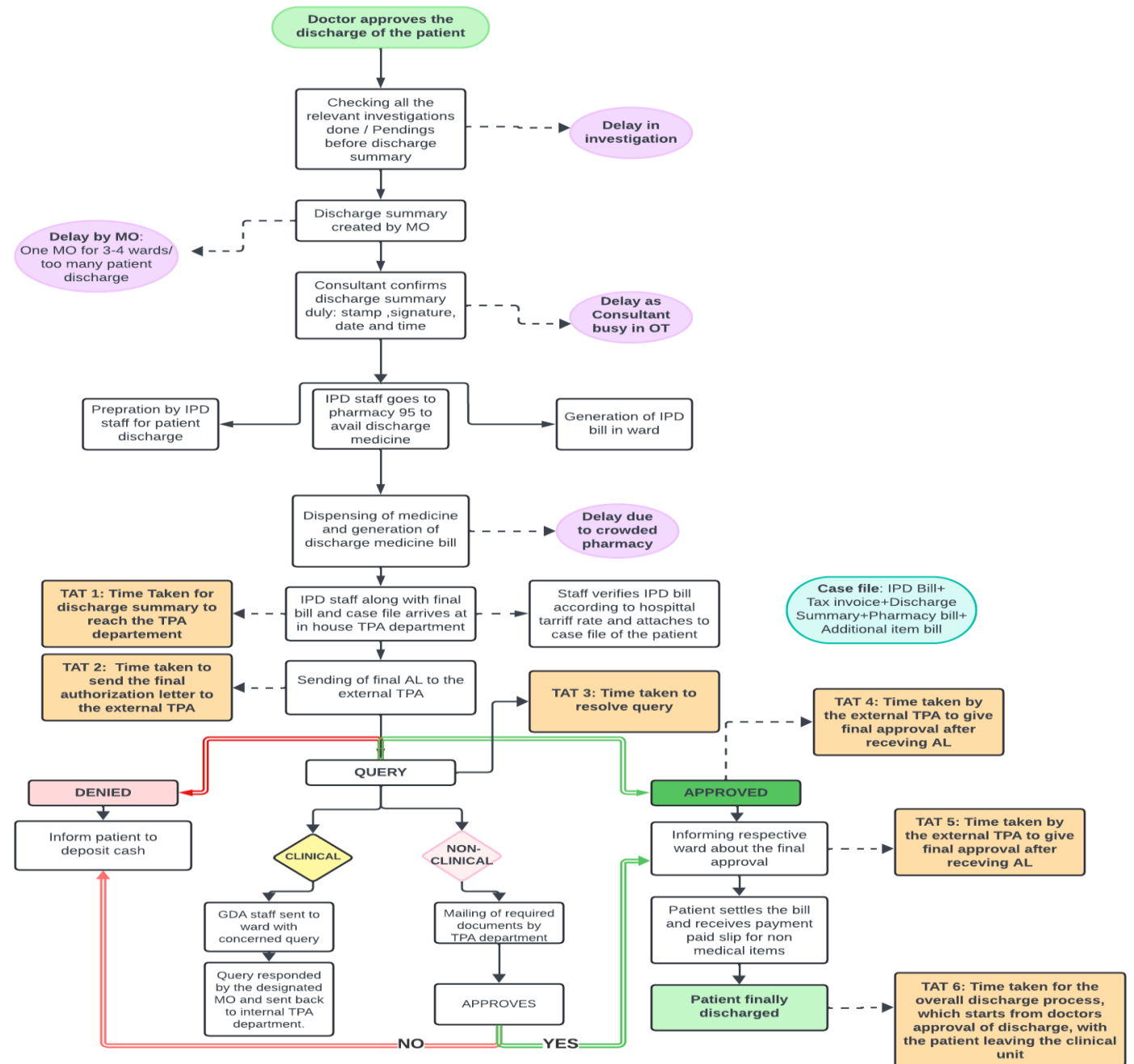
RESULTS



Cashless authorization process



Detailed Discharge Process

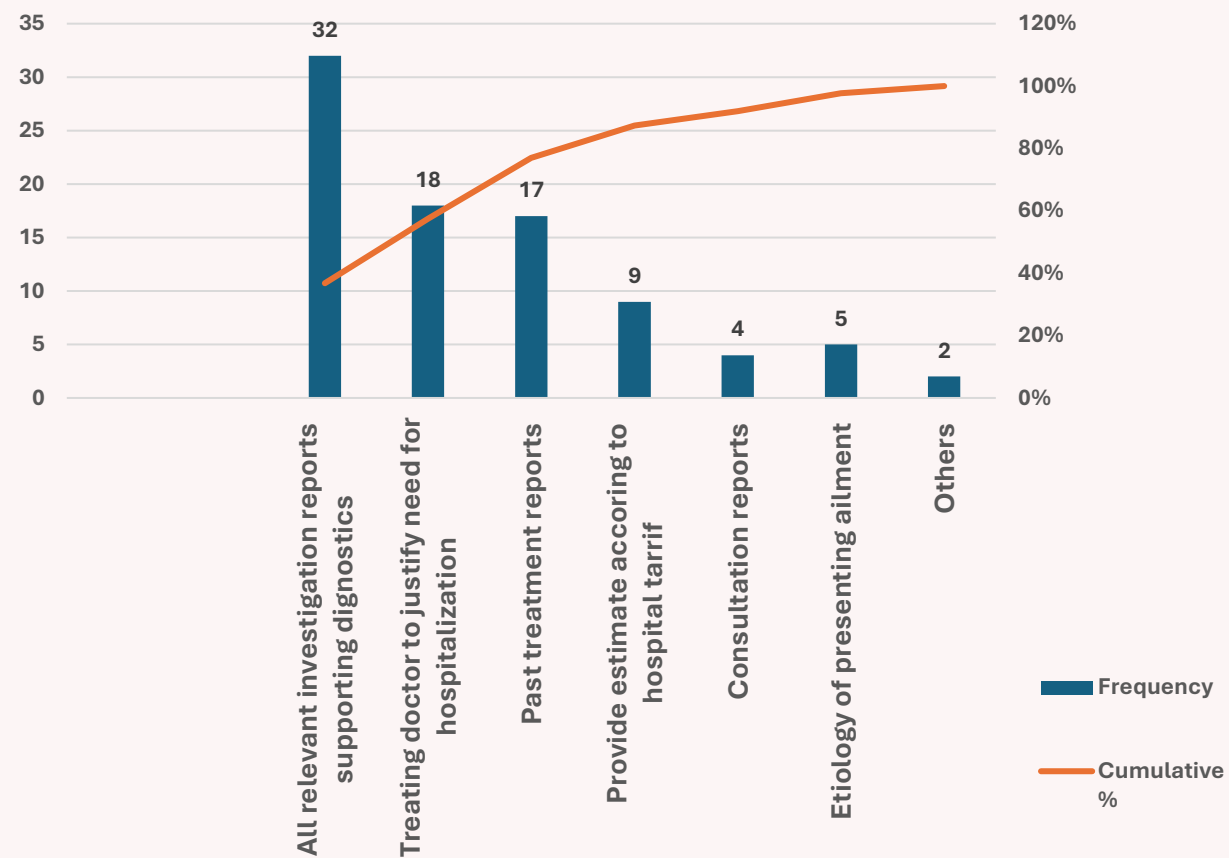


Descriptive analysis was carried out on all the Tats. TAT was converted into minutes. The output of descriptive analysis is shown in Table-1.

S.NO	Descriptive Statics	Minimum	Maximum	Average	Standard Deviation
1	TAT 1: Time taken for the discharge summary to be delivered from the ward to the in-house TPA department	26	885	187.11	112.17
2	TAT 2: Time taken to forward the final Authorization Letter (AL) to the external TPA department	5	112	23.06	11.89
3	TAT 3: Time taken to address and resolve any generated queries	10	1200	133.86	196.40
4	TAT 4: Time taken by the external TPA to provide final approval after receiving the AL	16	1283	136.63	156.73
5	TAT 5: Time taken for the final patient discharge after receiving approval from the external TPA	30	598	17.24	39.90
6	TAT 6: Total time for the discharge process, beginning with the doctor's approval and ending with the patient leaving the clinical unit	72	1500	373.57	202.19

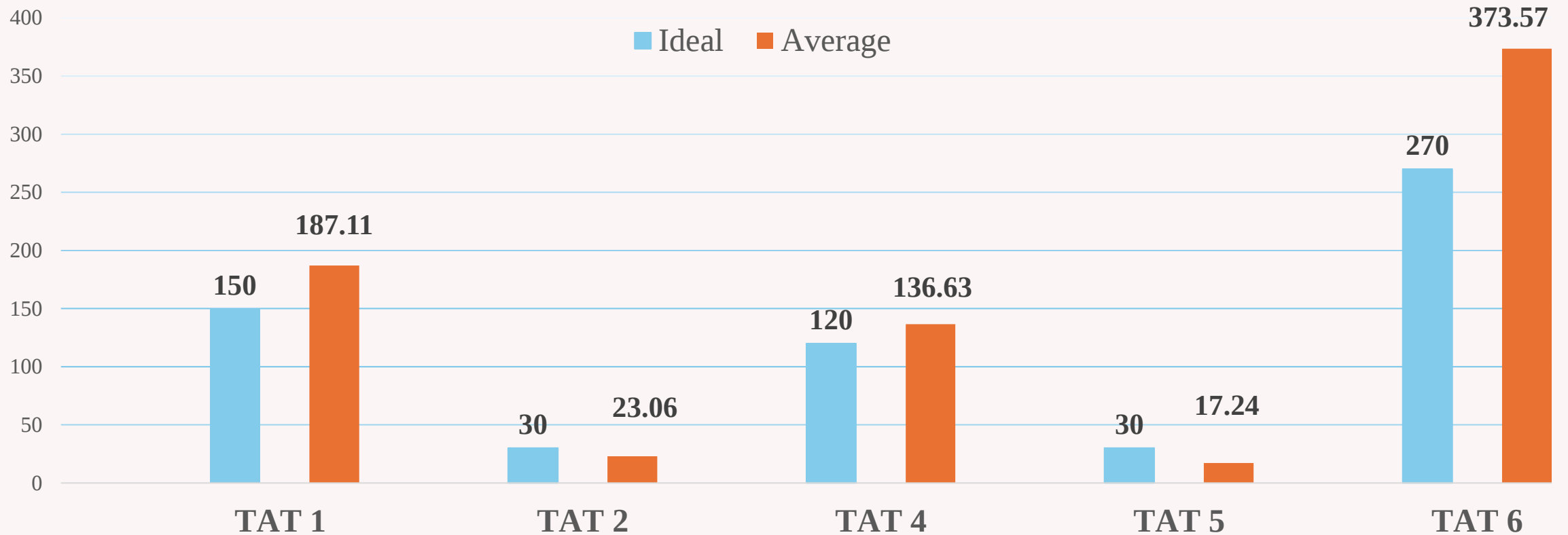
Pareto analysis for TPA queries generated

QUERY	Frequency	Cumulative	Cumulative %
All relevant investigation reports supporting diagnostics	32	32	37%
Treating doctor to justify need for hospitalization	18	50	57%
Past treatment reports	17	67	77%
Provide estimate accoring to hospital tarrif	9	76	87%
Consultation reports	4	80	92%
Etiology of presenting ailment	5	85	98%
Others	2	87	100%
Total	87		



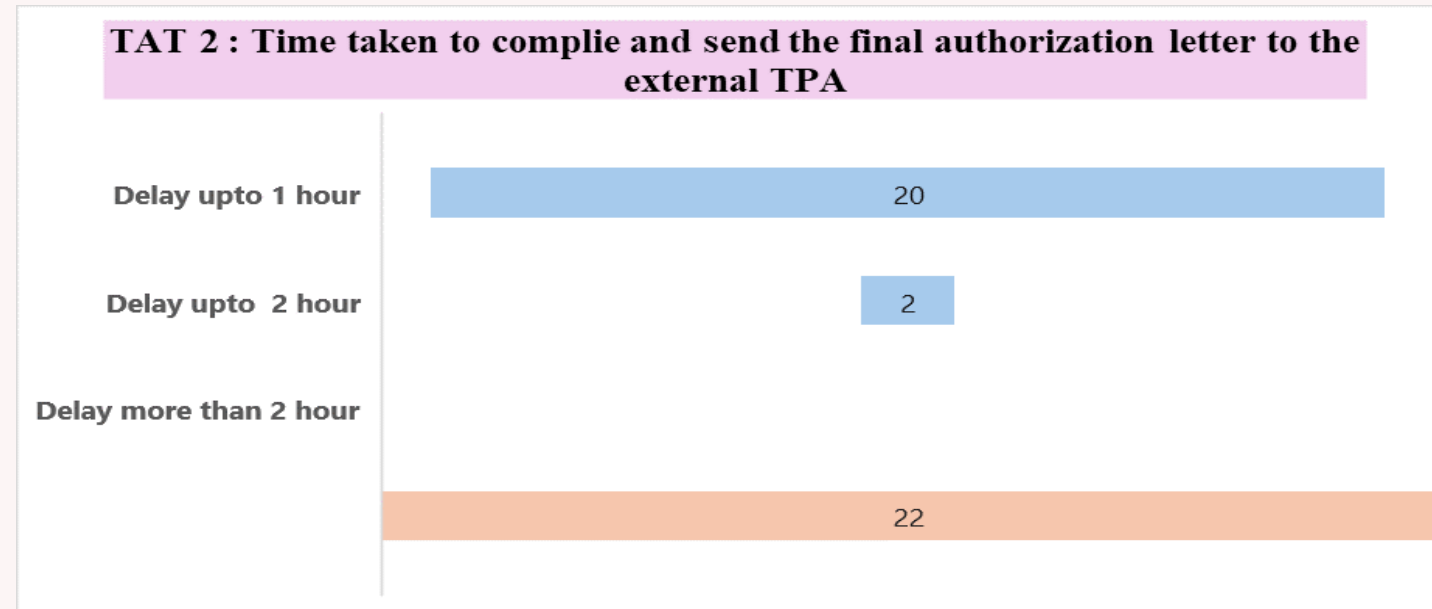
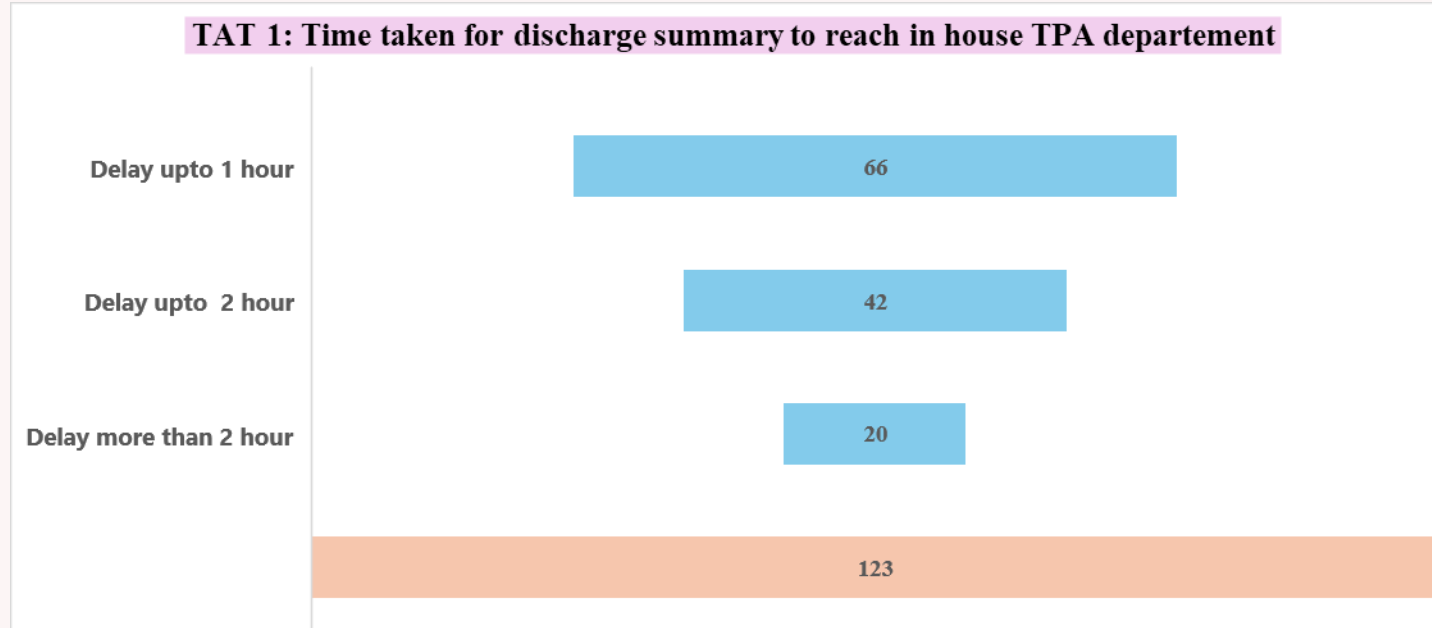
Top three queries, that are All relevant investigation reports, treating doctor to justify need for hospitalization and past treatment reports account are responsible for 77% of the total query generated by the external TPA

Comparison between hospital ideal TAT vs the observed average TAT

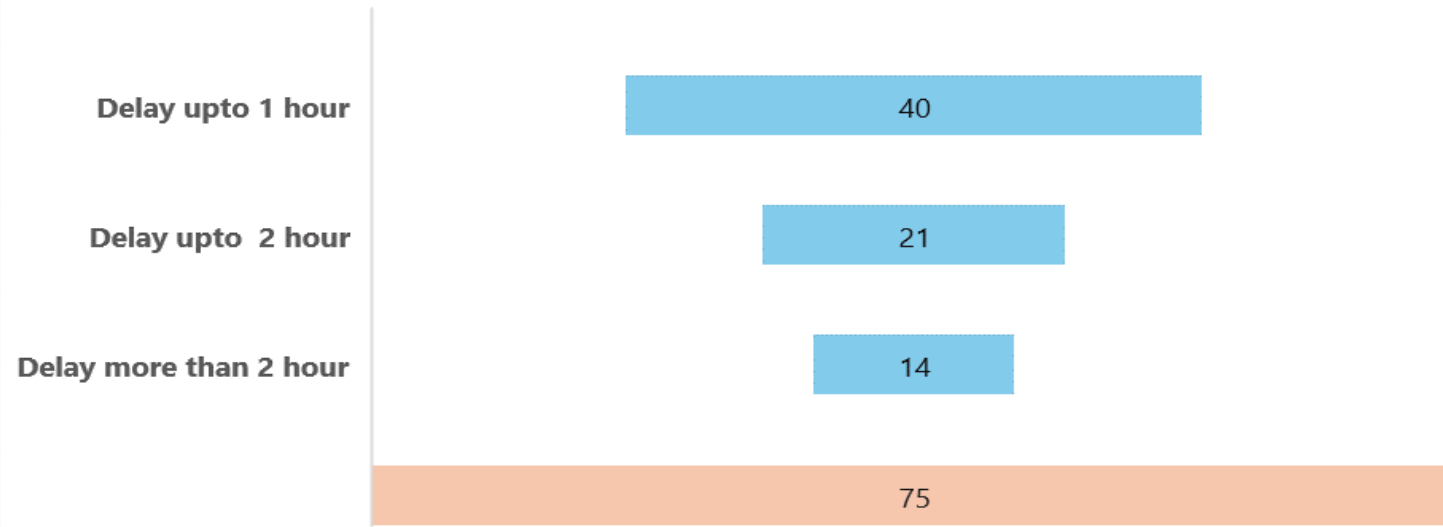


While comparing the ideal TAT with the observed TAT we see a significant variation, this is depicted in fishbone diagram explained further

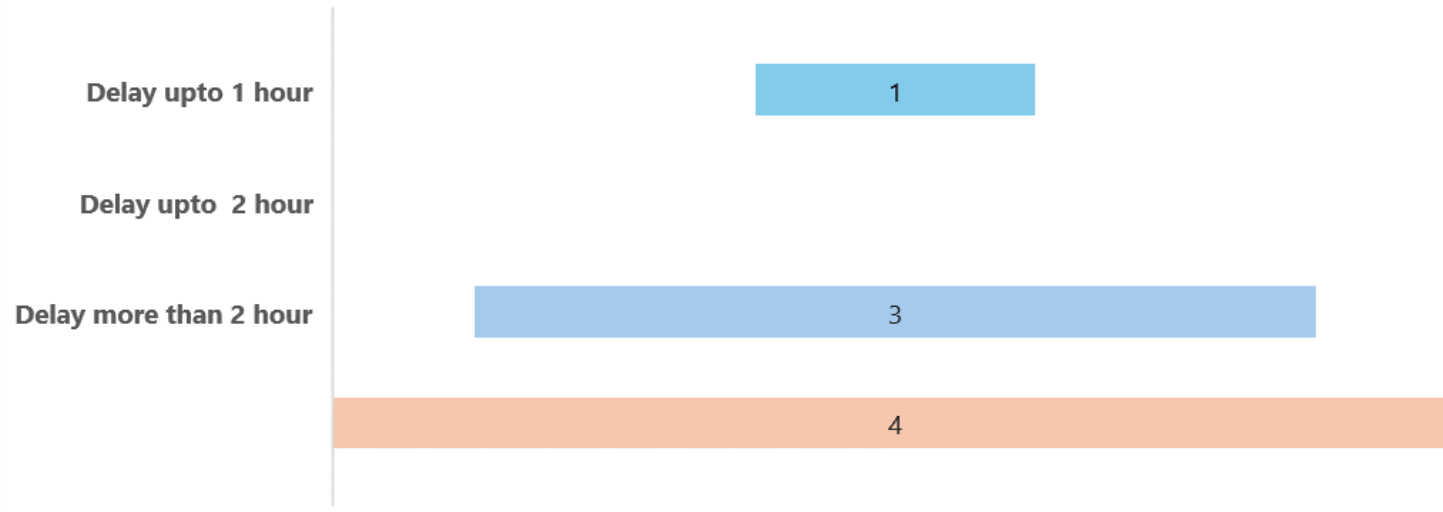
Number and Duration of delays in each subprocess



TAT 4: Time taken by the external TPA to give final approval after receiving AL

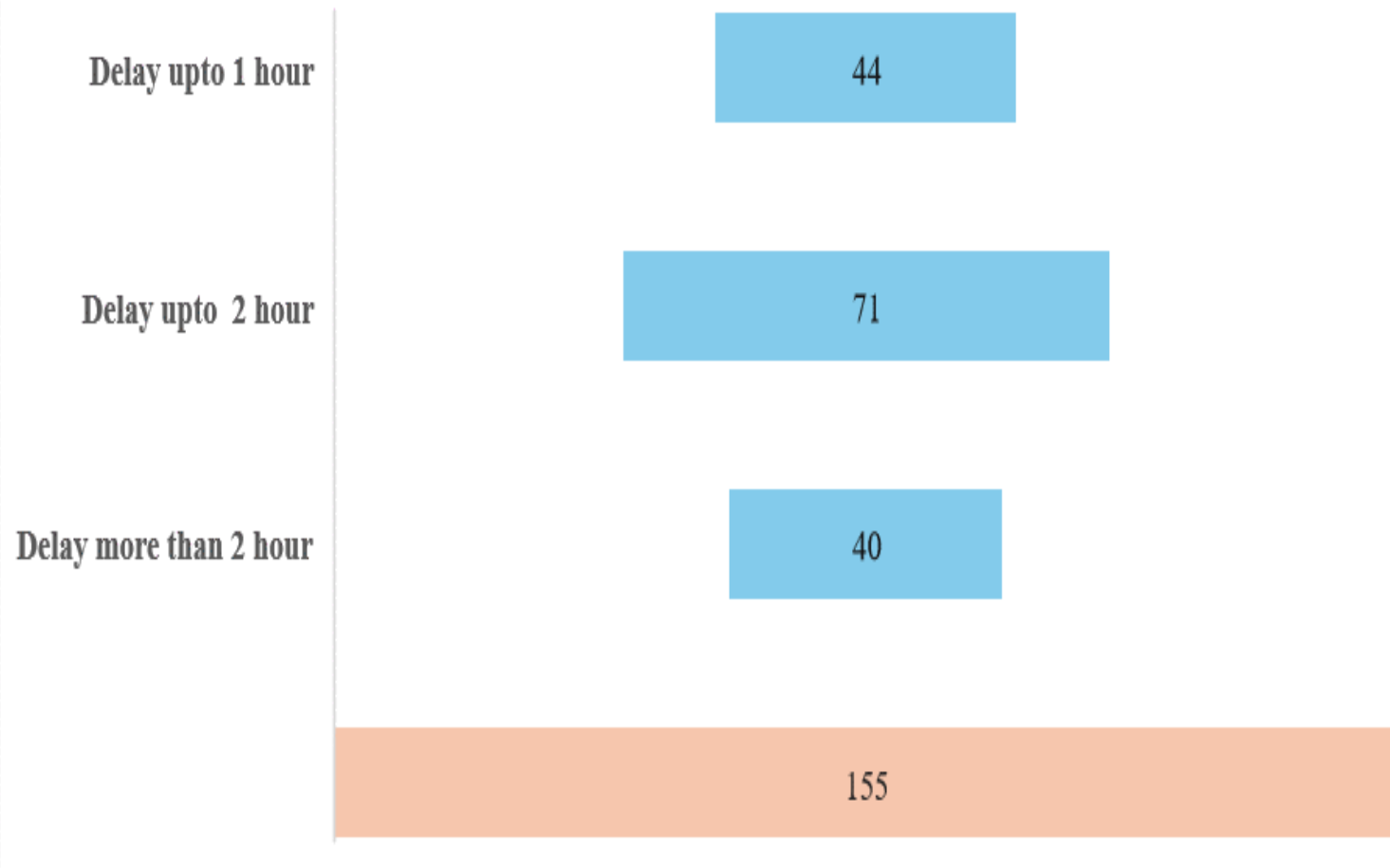


TAT 5: Time taken for final patient discharge after receiving the approval from external TPA

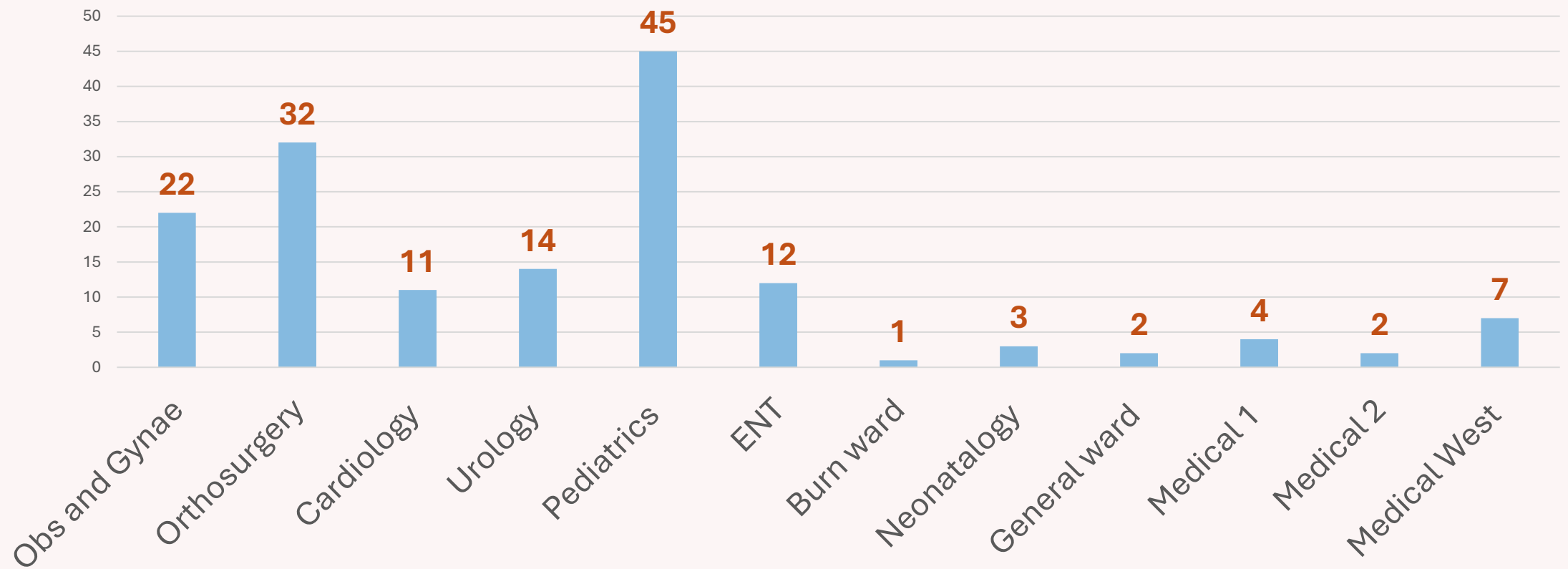


Total number of delay in overall discharge process

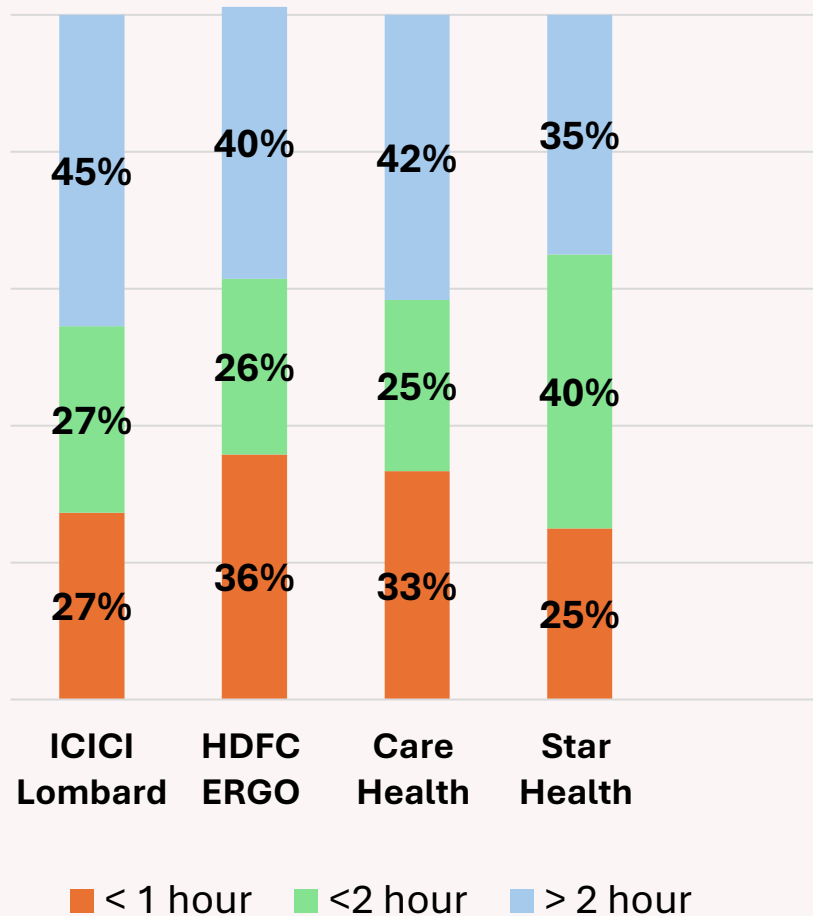
TAT 6: Time taken for the overall discharge process, which starts from doctors advice to discharge, with the patient emptying the bed



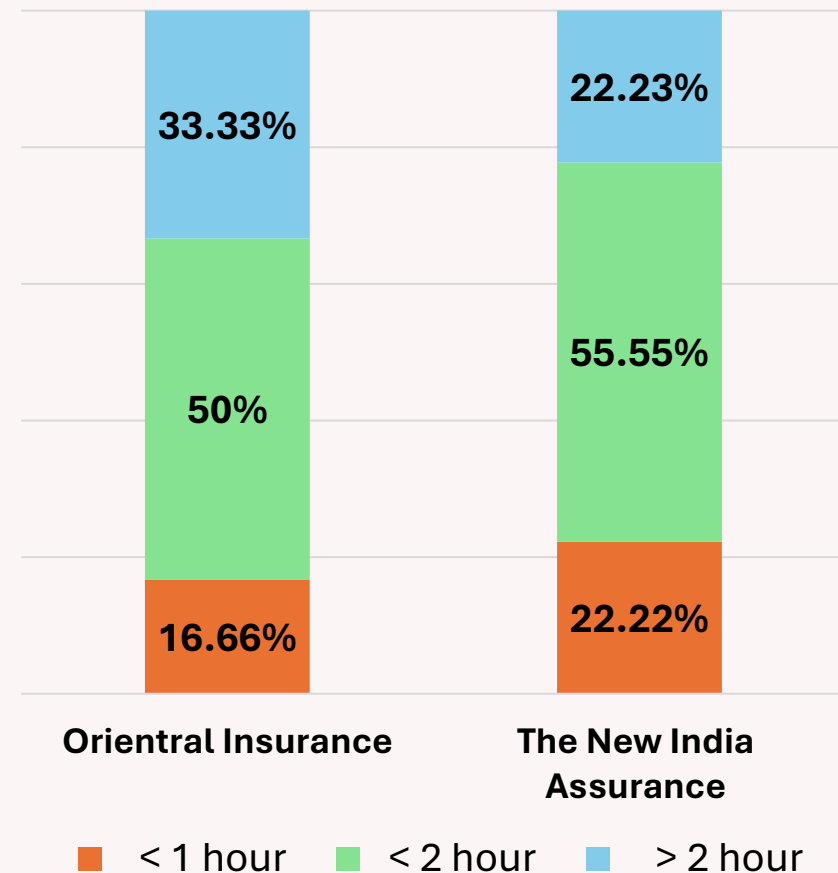
Department wise distribution of delayed cases



Time taken by private insurance companies to send final approval



Time taken by GIPSA to send final approval



To find out what sub process affects the overall discharge process, **Pearson correlation was carried out and is depicted in Table 2**

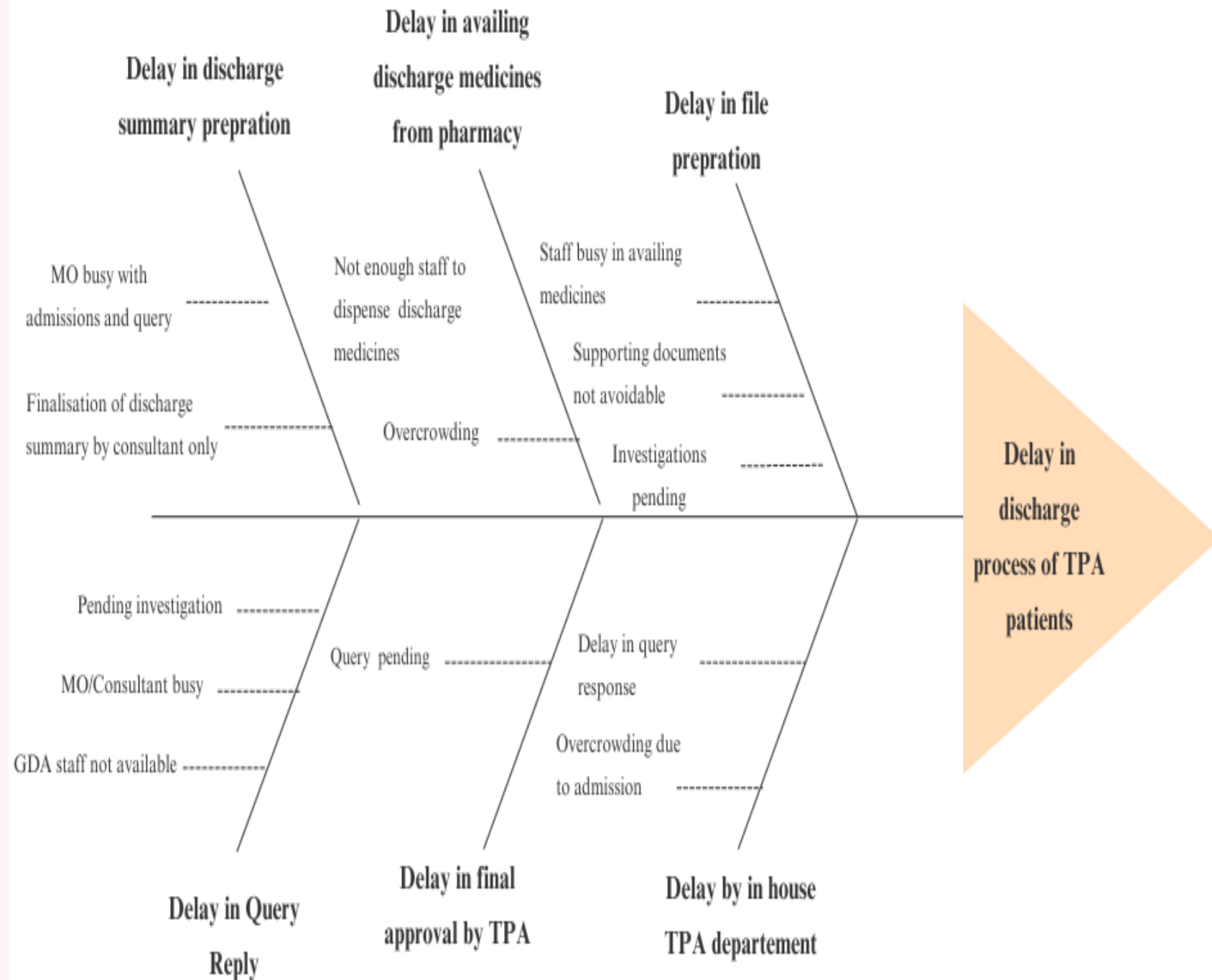
	TAT 1	TAT 2	TAT 4	TAT 5
p value	.353	.095	.721	.449
TAT 6	.0001	.153	.001	.003

$p < .05$, Hence from the table TAT 1, TAT 2, TAT 4 and TAT 5 have strong positive correlation with the TAT 6 i.e., the overall TAT whereas TAT 2 has weak correlation with TAT 6.

This shows that, Time taken for the discharge summary to be delivered from the ward to the in-house TPA department (TAT 1), Time taken by the external TPA to provide final approval after receiving the AL (TAT 4), Time taken for the final patient discharge after receiving approval from the external TPA (TAT 5) significantly impact the overall discharge process (TAT 6).

Whereas the time taken to forward the final Authorization Letter (AL) to the external TPA department does not a significant impact on overall discharge process.

Delays in the discharge process for TPA patients are multifaceted, involving issues at various stages, including discharge summary preparation, medicine dispensation, file preparation, query replies, and TPA approval processes. Each category includes specific causes such as staffing issues, pending investigations, document availability, and high patient volumes. By addressing these underlying causes, the hospital can streamline the discharge process and reduce delays for TPA patients.



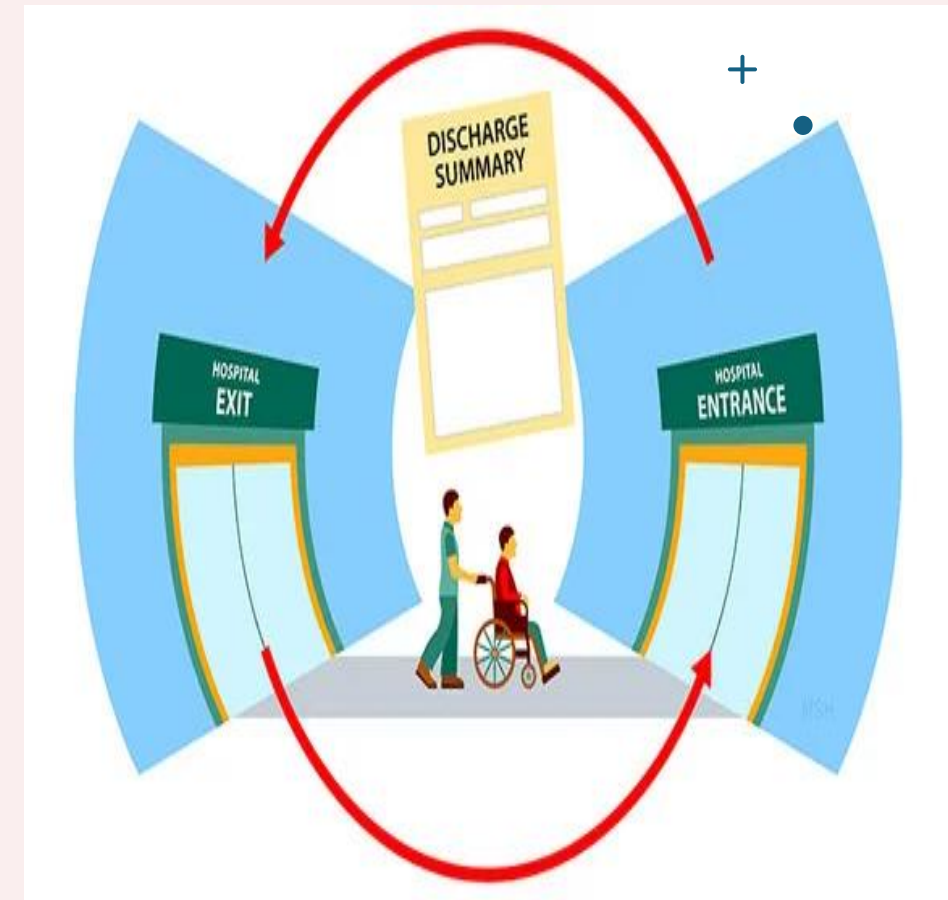
Discussion

Table 2 reveals a strong positive correlation between the overall discharge process and its sub-processes, with a notable significant positive correlation with TAT 1, the time taken for the discharge summary to reach the in-house TPA department.

TAT 1 experiences the most significant delay, exceeding two hours in 20% of cases. The main reasons for this delay include:

1. Medical Officers (MOs) responsible for multiple wards, leading to delays in typing discharge summaries on busy days. The Pediatric ward sees the highest number of cases due to a single MO handling three wards.
2. Delays in completing necessary medical investigations, as doctors await results to finalize discharge summaries.
3. Time-consuming process of reviewing, signing, and stamping discharge summaries by doctors, who are often in outpatient departments (OPD) after morning rounds.
4. Rework required when doctors review and correct summaries, necessitating additional review and signature by the doctors.

5. Time-consuming process of obtaining discharge medication from the pharmacy, with inpatient department (IPD) staff often waiting in long queues during peak hours.
6. Last-minute investigations requested by consultants that must be reverified before discharge approval.
7. Lack of a specific format for discharge summaries, with certain wards requiring deviations due to consultant instructions, leading to inconsistencies and delays.
8. Obtaining discharge medication from the pharmacy is time-consuming, with inpatient department (IPD) staff often waiting in long queues during peak hours.
9. Last-minute investigations requested by consultants must be reverified before discharge can be approved.

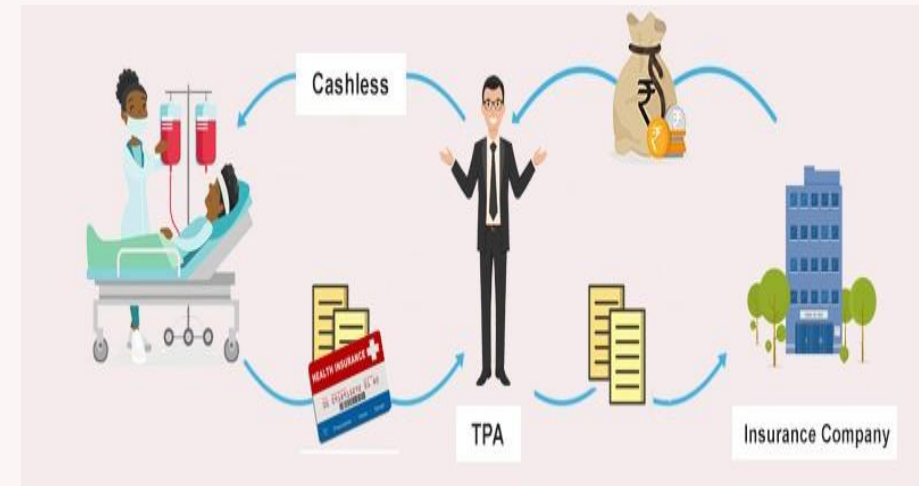


The reasons for delays in query responses include:

- 1.Unavailability of GDA staff.
- 2.MOs or consultants occupied with preparing discharge summaries or attending OPD duties.
- 3.Additional time required to arrange documents requested by the external TPA from the ward.

Furthermore, there is a positive correlation between the overall discharge process and TAT 5, the time taken for the final patient discharge after receiving approval from the external TPA. **Delays in TAT 5 are due to:**

- 1.Disruptions in payment for clearing dues on non-medical items.
- 2.Delays in the patient's preparation for discharge.
- 3.Late approval by the external TPA.
- 4.Delays in providing discharge information to the patient's attendant.



CONCLUSION

Based on the observed data, it is evident that the discharge process is significantly influenced by various time-associated factors. The strong positive correlation between the overall discharge process and sub-processes such as TAT 1, TAT 4, and TAT 5 highlights the areas requiring attention to enhance efficiency.

1. Assign dedicated MO for discharge summary preparation for each ward so that discharge summary preparation is always covered, even on days with a high number of planned discharges.

2. Discharges should be planned. If a patient is scheduled to be discharged the next day or requires further investigations, this should be communicated the night before. This allows the investigations to be performed first thing in the morning, with samples sent to the lab during the 6 AM slot. Additionally, the MO on night duty should prepare the discharge summary, so it can be reviewed and signed by consultants during their morning rounds.

3. Implement E-Signature Systems: Introduce secure electronic signature systems within the EHR to allow doctors to sign, edit or make changes in the discharge summaries remotely and at their convenience.

4. Management in Pharmacy: Pharmacy 95, which handles the dispensing of discharge medications for the entire hospital, should distribute this workload among other retail pharmacies within the hospital to ensure efficiency. Initially it will increase the inventory carrying cost but will prove to be beneficial in the long run for the hospital.

5. Create detailed, standardized templates for discharge By implementing a uniform template across the entire hospital, which accommodates variations like including medical history for specific wards, the process will be significantly streamlined & more efficient.

REFERENCES

- 1) William Joe. Health Insurance Coverage in India: Insights for National Health Protection Scheme. 2019 April; (1):2-21
- 2) Kumar Anurag, and Sarwal Rakesh. 2021. "Health Insurance for India's Missing Middle"
- 3) Shukla K, Upadhyay S. Predictive modelling for turnaround time (TAT) of discharge process for insured patients in a corporate hospital of Pune city. Journal of Health Management. 2018 Mar; 20(1):56-63.
- 4) Kumar J. A study of the causes of delay in patient discharge process in a large multi-specialty hospital with recommendations to improve the turnaround time. QAI Journal for Healthcare Quality and Patient Safety. 2022 Jan 1; 3(1):13-20.
- 5) Suji MU, Magalingam A. A STUDY ON DELAY IN INSURANCE PATIENTS DISCHARGE AT A MULTISPECIALITY HOSPITAL IN KERALA. EPRA International Journal of Multidisciplinary Research (IJMR). 2023 May 4; 9(5):1-5.
- 6) Mundodan JM, Sarala KS, Narendranath V. A Study to Assess the Factors Contributing to Delay in Discharge Process in a Teaching Hospital. International Journal of Research Foundation of Hospital and Healthcare Administration. 2019 Apr 1; 7(2):63-6.
- 7) Micallef A, Buttigieg SC, Tomaselli G, Garg L. Defining delayed discharges of inpatients and their impact in acute hospital care: a scoping review. International Journal of Health Policy and Management. 2022 Feb; 11(2):103.
- 8) A Sing, P Ravi, K Lepcha. Insured patient discharge delay: Causes and Solution. 2019 Dec; 15(1):42.
- 9) Srivastava R, Stone BL, Patel R, Swenson M, Davies A, Maloney CG, Young PC, James BC. Delays in discharge in a tertiary care pediatric hospital. Journal of Hospital Medicine: An Official Publication of the Society of Hospital Medicine. 2009 Oct; 4(8):481-5.
- 10) Pandit A, Prashar S. A study of the Discharge Process of a Multi-Specialty Hospital. SCOPUS IJPHRD CITATION SCORE. 2019 May; 10(5):6.

An aerial photograph of a multi-lane highway bridge spanning a body of water. The image is overlaid with a vertical gradient from blue on the left to orange on the right, separated by a thin white vertical line. The word "THANKYOU" is written in white capital letters on the left side, over the blue gradient.

THANKYOU