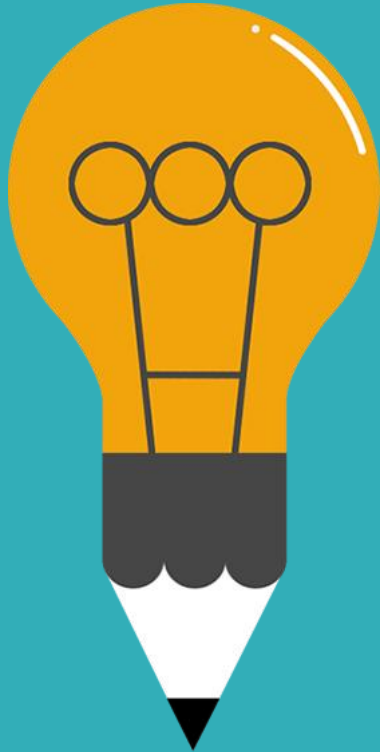




A study on discharge process of IPD patients at C.K. Birla Hospital, Jaipur.

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Introduction

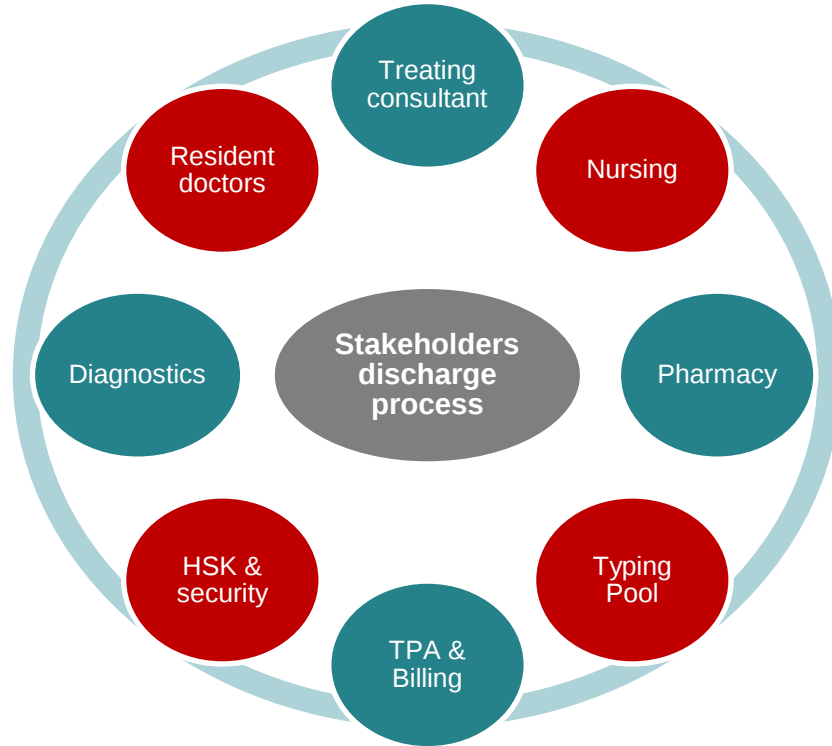


As per NCBI , The hospital discharge defines the point at which the inpatient hospital care ends, with on going care transferred to other primary, community or domestic environments.

Thus hospital discharge is not an end point, but rather one of the multiple care transitions in patient care journey



Stakeholders Of IPD Discharge Process



A prompt discharge process plays a paramount role in reducing the waiting time by allowing the efficient bed management and its allocation to the incoming patients in shortest time possible. Which would mean the high turnover rate of beds and also indirect reduction in waiting time for beds by the patients who are awaiting admission



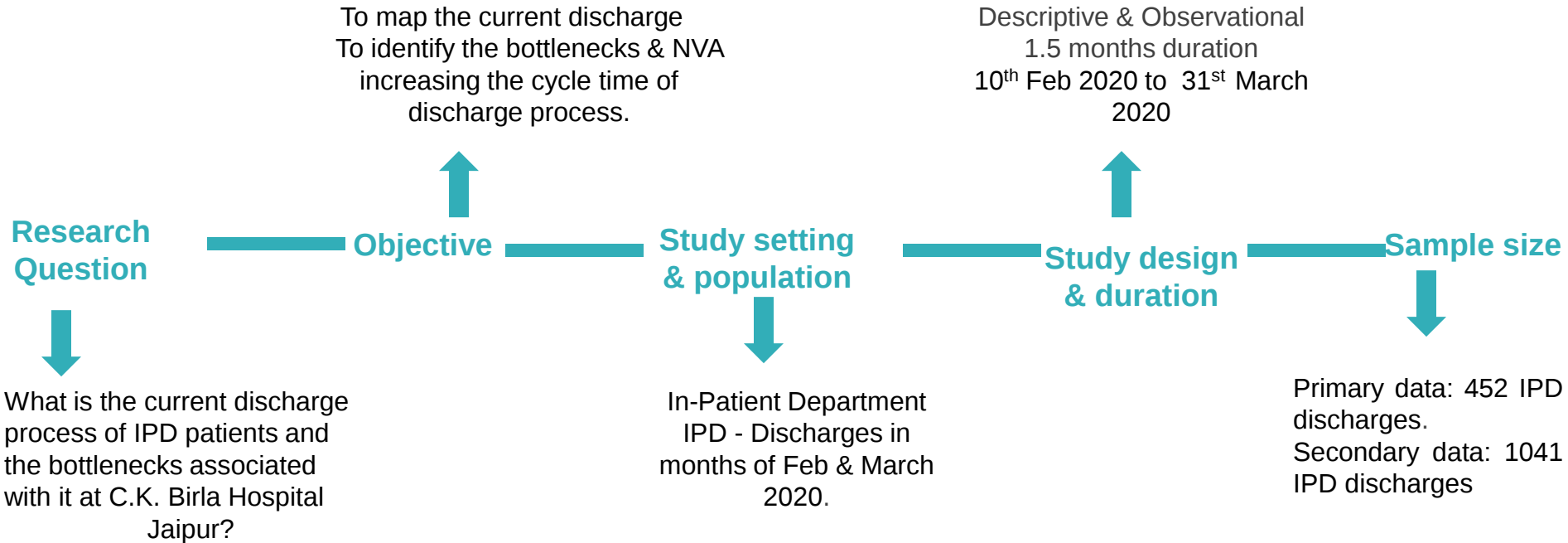
Review of Literature

Year	Authors	Title	Research design	Conclusion	Inference
2018 India	Kasturi Shukla Shristi Upadhyay	Predictive modeling for TAT of discharge process for insured patients in corporate hospital of Pune City.	A cross-sectional study undertaken from May – July 2015 for a sample of 443 Insurance covered hospital in- patients	Time taken from discharge summary submission to final bill approval from insurance company had the highest predictive effect on overall TAT. That TAT varied significantly by an hour for long stay patients.	Hospital and insurance companies need to work in tandem by providing complete documentation by the hospital to insurance company and an fast track response to the queries generated
2014 India	S.Arun Vijay	Reducing and optimizing the cycle time of patient discharge process in a hospital using six-sigma DMAIC approach	The quantitative study carried out in general medical and surgical department of at K.G Hospital for the duration of 3 months for discharge process redesigning	61% reduction in average discharge time from 234 minutes to 143 minutes by elimination of NVA steps and adoption of DMAIC approach.	The common delays occur at timely availability, manual checking and merging of patient reports findings into discharge summaries, its proof reading .
2017 India	Harmanjot Kaur & Roopjot Kochar	A study on discharge process of discharged patients of a multispecialty hospital, Ludhiana	A descriptive cross sectional study carried out in multispecialty hospital of Ludhiana . Sample size of 270 inpatients taken.	The maximum TAT was of 9:07 hrs from discharge intimation to final handover and on average 5:07 hours was taken from discharge intimation to room preparation for next admission.	Ambiguity in discharge orders seems to complicate the discharge process. Use of hospital integrated HIS is linked to reduction in number of phone call for seeking clarification

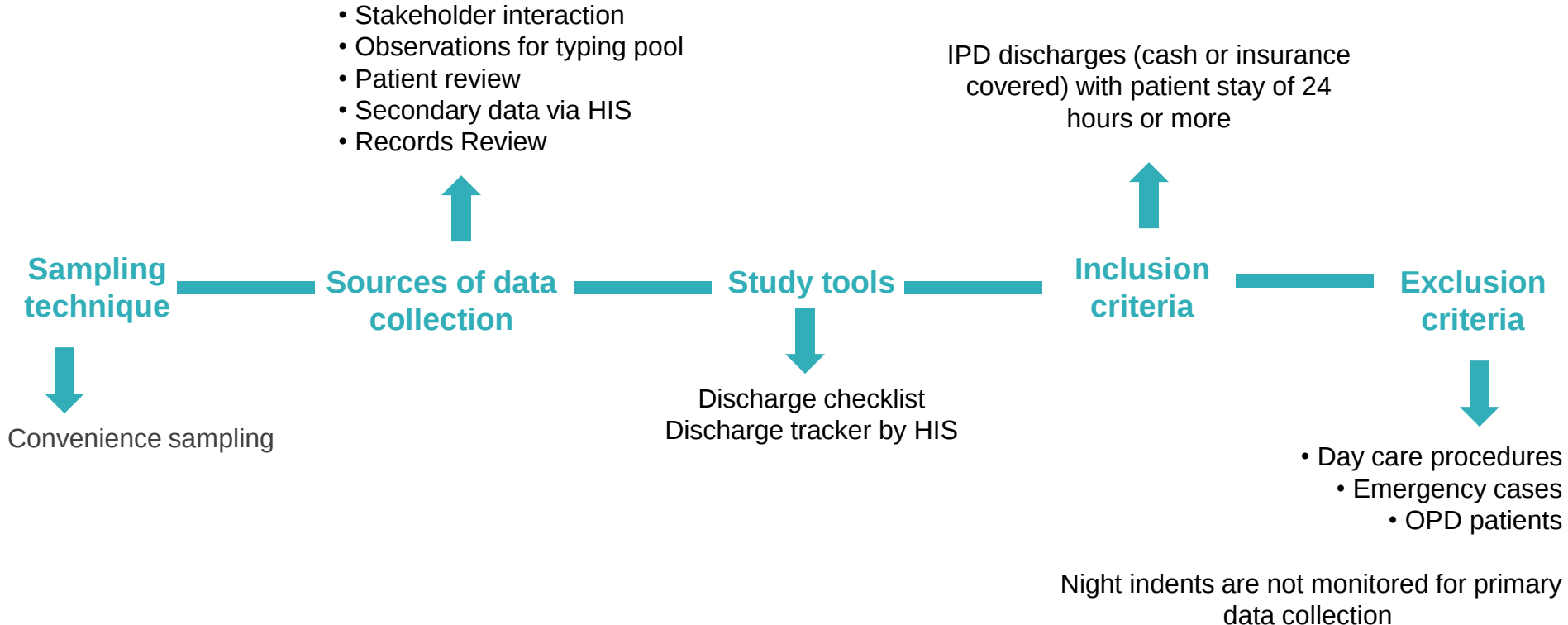
Review of Literature Contd.

Year	Authors	Title	Research design	Conclusion	Inference
2014 Global	Theodore T. Allen, Shih-Hsien Tseng, Kerry Swanson & Mary Ann McClay	Improving hospital discharge process with Six Sigma Methods	An interventional study involving application of DMAIC approach in streamlining the discharge process at a 204 bedded Alliance community hospital in Ohio.	Incorporation of discharge worksheet in patient medical records along with cooperation of IT personnel and nursing staff resulted in average discharge time reduction from 3.3 hrs to 2.8 hrs (p=0.068) and a dramatic reduction of missing chart entries by 62%.	Discharge communication method need to be standardized and specific. The expectation should be communicated uniformly including the patients family.
2008 Global	Y.-Y. Jiao, K.Li, R.J.Jiao	A case study of hospital patient discharge process re-engineering using RFID	An interventional study carried out in Tan Tock Seng Hospital in Singapore	Patient discharge process with RFID implementation and discharge lounge is able reduce the number of staff needed and shorten the bed wait time for the patients	Automation of human tasks through communication based on computerized systems and to address the variability and capture real time data.
2015 Global	Parth Das, James Benneyan, Linda Powers, Matthew Carmody, Joanne Kerwin, Sara Singer	Engineering safe care coordination from hospital to home: Lessons from USA	A quantitative and qualitative research that employed techniques like FMEA, FRAM & swim lane diagrams at Mt. Auburn Hospital U.K.	Systems engineering is one viable approach in tackling the complex issues associated with delayed discharge.	Safe transition of hospital patient care requires learning from the successes and failures and top management commitment to facilitate the redesigning of processes.

Research Methodology



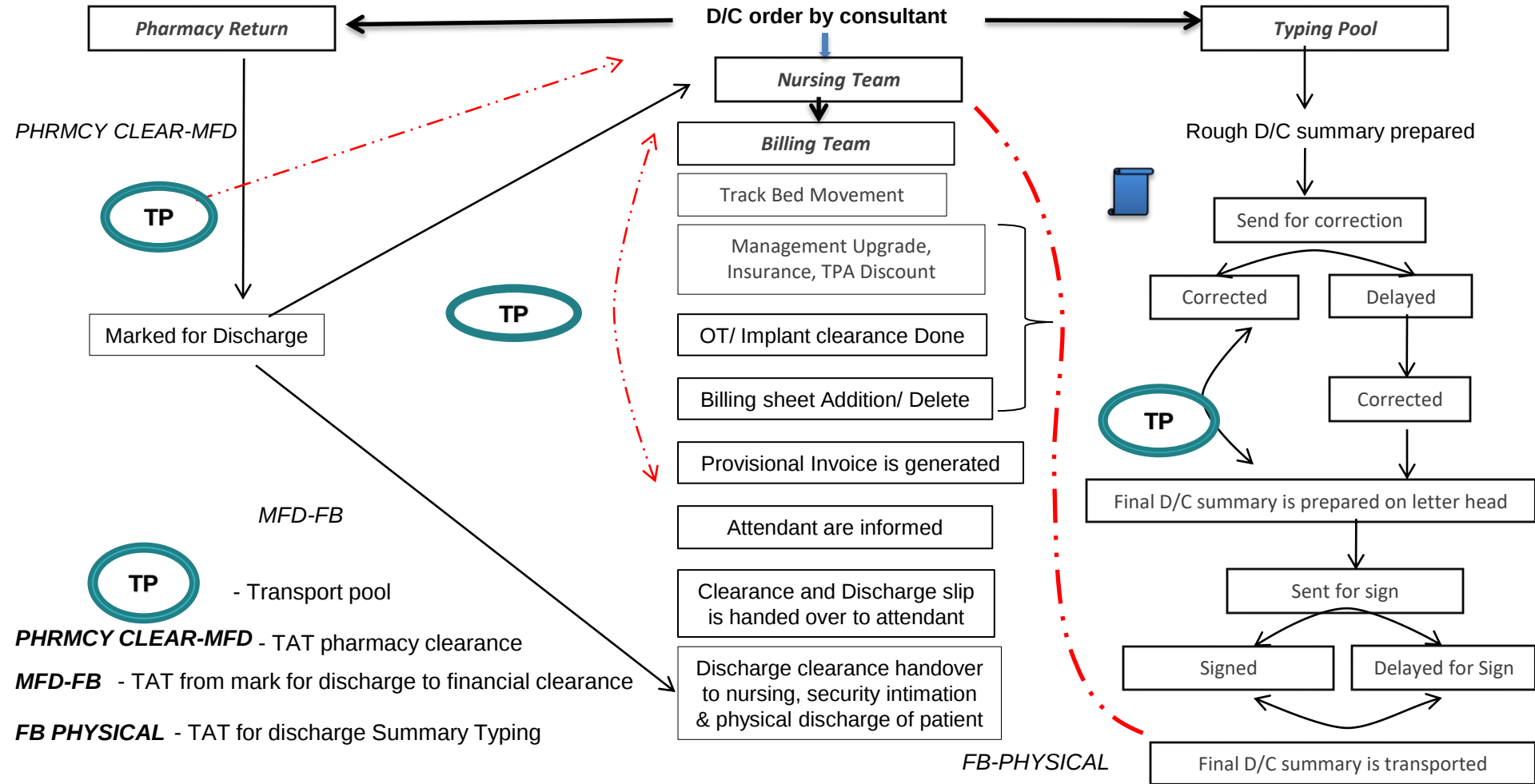
Research Methodology Cont.



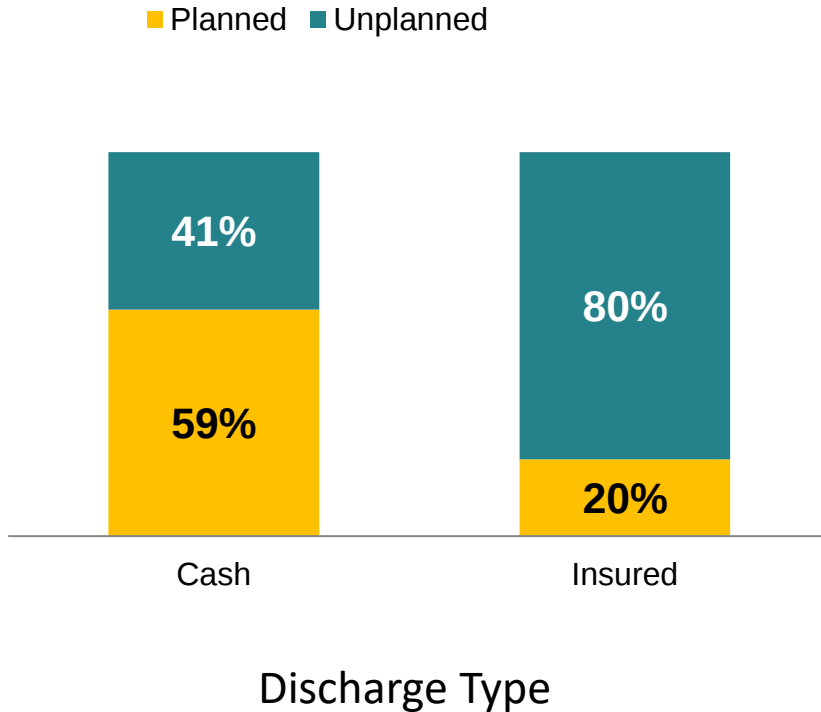
Findings



Discharge Process Flow as is – IP



Percentage Distribution of Discharge Categories



Observation

- The cash paying patient formed 65% of all IPD discharges
- Over all the planned discharges formed 45% of all IPD discharge
- The unplanned discharges were more 80% in insured category and 41% in cash category

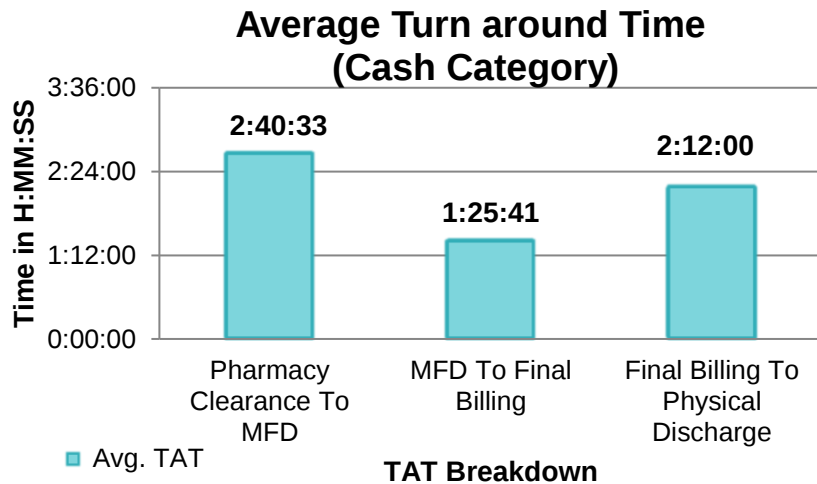
Potential Impact

Unplanned discharge cause late initiation of discharge process and increase workload in peak hours

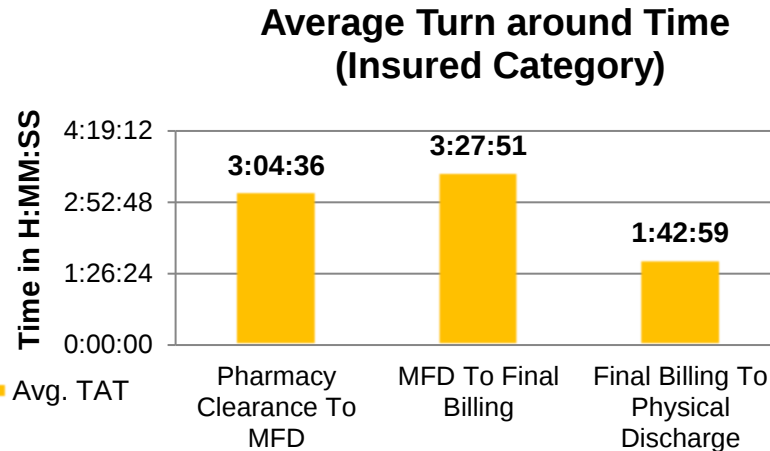
Suggestion

- Increasing planned discharge to target of 90% , to reduce the last minute hustle.
- More than half of patient are cash paying a counseling the patient for timely payment of dues

Parameters of Tracking Discharge TAT



Cash Average TAT 6 hours 18 minutes



Insured Average TAT 8 hours 15 minutes

• Sample size **1041** (01st Feb to 29th Feb)

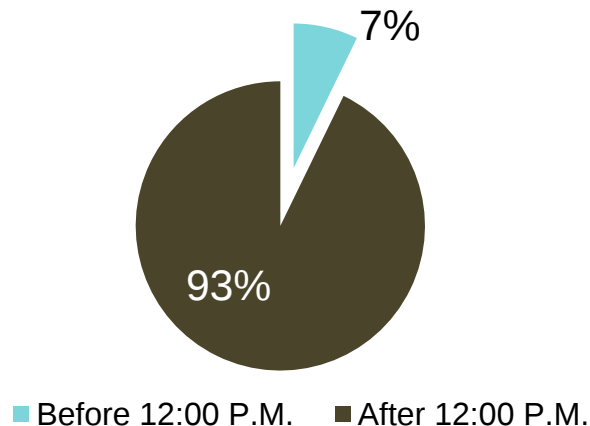


Observations	Potential Impact	Suggestions
•Inadequate number of transport pool •Delay in receiving investigation reports •Cross referrals on day of discharge •MFD only after consultant rounds •Discharge summaries not finalized	Delayed medicine return and discharge summary handover to nursing. The billing activity starts only when MFD is marked.	Keeping discharge summaries ready at night for planned discharge. Keeping no cross referrals on discharge day Fixating time for MFD Prioritize consultant rounds for discharge patients

Discharges before 12:00 PM

Discharges before 12:00 PM **Target:-75%**

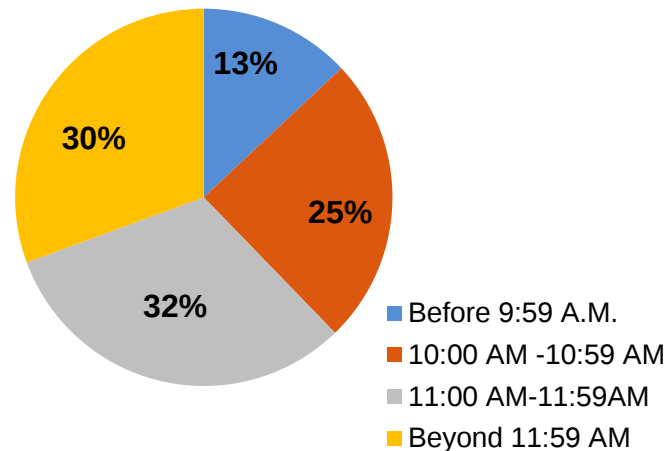
Time of patient discharge



Sample size:1041

- Before 12:00 PM – 73 cases
- After 12:00 PM – 968 cases

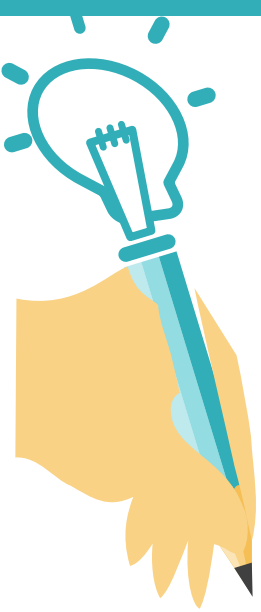
Timmings for MFD marking in HMIS



Average MFD time :11:50:59 AM

Observations	Potential Impact	Suggestions
Lack of adherence to IPD round timings Late MFD and late billing initiated Patient party not aware of their role in discharge	The discharge delayed beyond the stipulated time and patient charged extra half/ full day charges leading to dissatisfaction	Reinforcement to IPD round time adherence Privileging the second line functionaries of consultants Counseling of patient and attendants

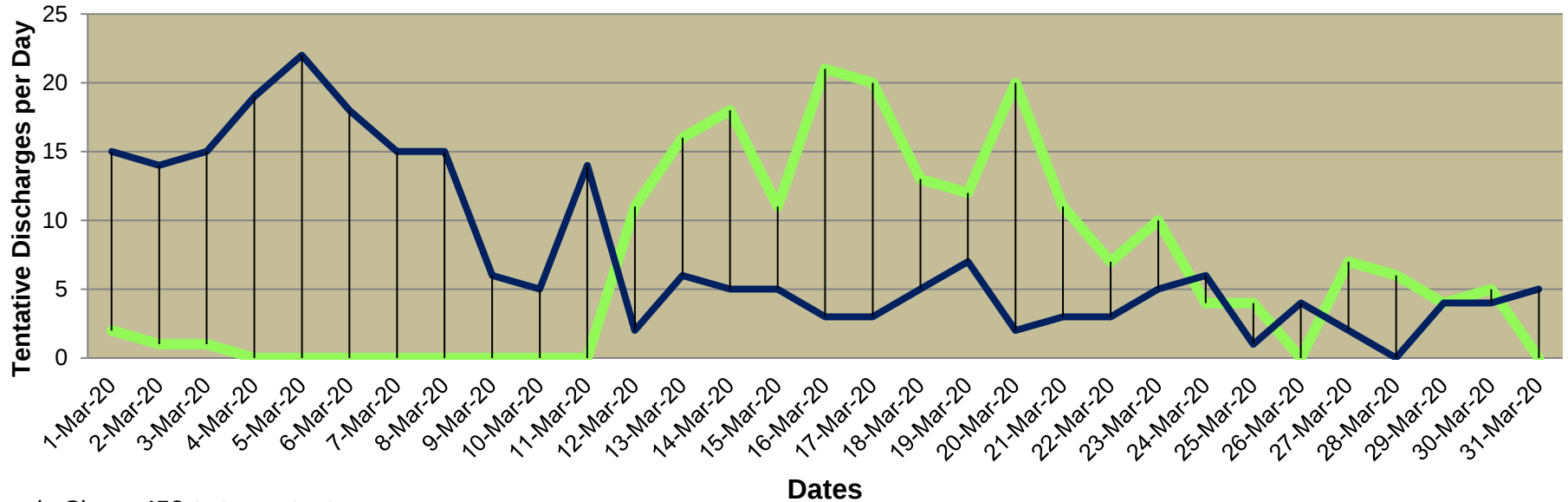
Six Sigma Level Of as-is Discharge Process



S. no	Process sigma components	Result	
		Cash Category	Insurance Category
1	No. of defects opportunity per unit (O)	O = 1	O = 1
2	No. of patients discharged during month of February (N)	N = 680	N = 361
3	No. of patients not discharged within specification limits (D)	D = 515	D = 192
4	Defects per opportunity $DPO = D/O * N$	0.757	0.531
5	Defects per million opportunities	750000	530000
6	Yield $(1 - DPO) * 100$	24.3 %	46.9%
7	Process sigma	0.80	1.42

Observations	Potential Impact	Suggestions
Nearly 2/3 rd of cash patient & more than half of insured patient not discharge within the stipulated time of 120 Minutes and 240 minutes respectively	Delayed discharge breeds patient frustration Increases waiting time of upcoming admission Potential for revenue loss	Optimizing discharge by increasing process ownership of involved stakeholders

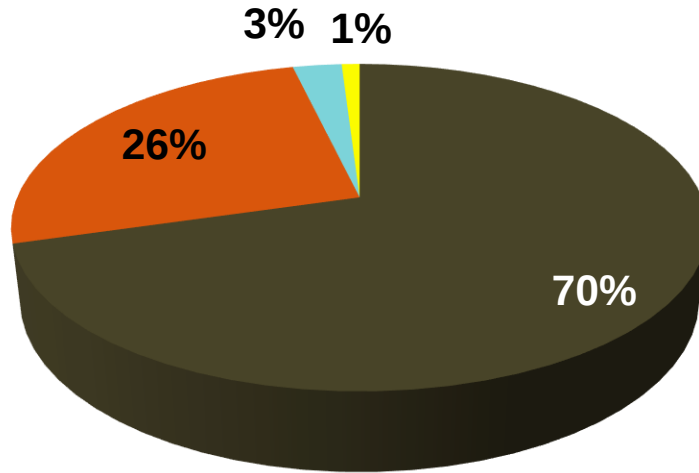
Discharge Adherence Trend for Planned Discharges (01st-March-2020 to 31st-March-2020)



Sample Size – 452 (Primary data) Discharges adherence – 204 Outliers -248		
Observations	Potential Impact	Suggestions
53% of outliers to discharge adherence belong to cash category and 47% from insured category.	Prolonged hospital stay of patients planned for discharge Repetitive revision of patient provisional bills	Counseling of package patients Educating the patients for making prior payment and transport arrangement

Percentage distribution of discharge lag in days

■ 1day ■ > 1day to 7days ■ > 7days to 15 days ■ > 15 day



Sample Size 452

Observation

In majority of patient discharge is delayed by 1 days especially in maternity care patients, on third floor 58% and those admitted in general ward on second floor 60%

Potential Impact

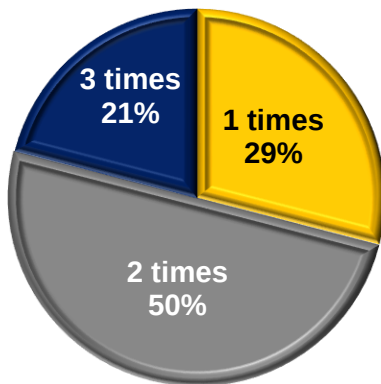
After the package expires the patient is charged as per the routine stay.

Suggestion

Apprising about the patient condition to the attendants on regular basis and intimating at earliest when discharge is planned

		Time taken for activities by typing pool			
S No.	Tasks	Total time taken (h:mm:ss)			Sample size
		Min	Mean	Max	
1	Fresh Discharge Summaries Compilation	0:03:00	0:09:38	0:24:00	21 summaries
2	Corrections on Draft Summaries	0:01:00	0:04:05	0:25:00	34 summaries
3	Phone Calls	0:01:00	0:02:14	0:13:00	17 instances
4	Idle Instances	0:01:00	0:13:34	0:37:00	4 instances
5	Complete Compilation of Discharge Summary	00:10:00	2:16:06	5:07:00	

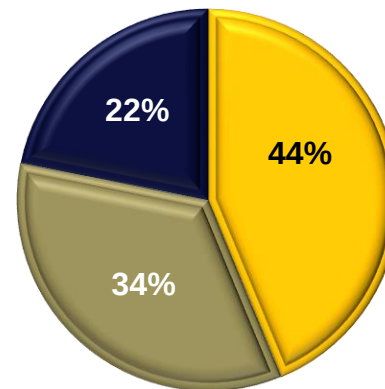
Correction Frequency of Discharge Summaries



Total sample size 34

- One correction -10
- Two times correction -17
- Three times correction- 7

Time Elapsed Between Subsequent Corrections of Discharge Summaries



- less than 60 min.
- 60-120 mins.
- more than 120 mins.

Observations	Potential Impact	Suggestions
On an average there are 3 correction and 4 addition per discharge summary. The time elapsed between subsequent corrections itself exceeds the TAT of 30 minutes for summary compilation	Repeated correction and their proof reading by consultant and finalization with signatures delay the timely handover	•Delegating the resident doctors to compile the discharge summaries. •Continuously updating summaries for log stay patient •HIS integration

➤ This study highlighted that more than half of discharge patients belong to cash paying category and in which 59% are planned discharges. However the adherence to planned discharge is realized in only 45% cases.

➤ 93% discharges are done post 12:00 P.M. Since the discharge process is initiated late in afternoon for these cases.

➤ In 3/4th cases the hospital stay is prolonged by one day.

➤ The typing pool is utilized to only 33% of the capacity in total 6 working hours per shift.

Therefore discharge planning should be recognized as integral part of improving discharge process, with continual monitoring of adherence to discharge policy of hospital.

Conclusion

References

- ❑ Brown, T. (2013). *Using Healthcare Enterprise Data Warehouse and analytics to reduce labor costs*. Texas: Health Catalyst.
- ❑ *Care Transitions from Hospital to Home: IDEAL Discharge Planning*. (2013). Rockville: Agency for Healthcare Research and Quality.
- ❑ Dr. Pranav Thake, R. S. (2019). Decreasing Discharge Time in a Hospital by Application of HMIS. 1-6.
- ❑ Ghada R El Eid, H. T. (2015). Improving Hospital Discharge Time: A Successful Implementation of Six Sigma Methodology. *Pubmed*, 1-8.
- ❑ Harmanjot Kaur, R. K. (2017). A Study on Discharge Process of Discharged Patients of a Multispecialty Hospital Ludhiana. *International Journal of Engineering and Management Research* , 688-694.
- ❑ *Hospital discharge and readmission*. (2020, May Friday). Retrieved May Saturday, 2020, from Up to Date: <https://www.uptodate.com/contents/hospital-discharge-and-readmission>
- ❑ Kasturi Shukla, S. U. (2018). Predictive Modeling for Turn Around Time (TAT) of Discharge Process for Insured Patients in a Corporate Hospital of Pune City. *Journal of Health Management* , 56-63.
- ❑ Kluwer, W. (2016, January Monday). *8 Best Practices for Discharge Planning*. Retrieved February Friday, 2020, from http://lippincottolutions.lww.com/blog.entry.html/2016/01/06/8_best_practicesfor-yTau.html



Thank you