DESIGN SURGICAL BILLING PACKAGES AND THEIR IMPACT ON BILLING AND DISCHARGE TAT FOR KIMS HOSPITAL

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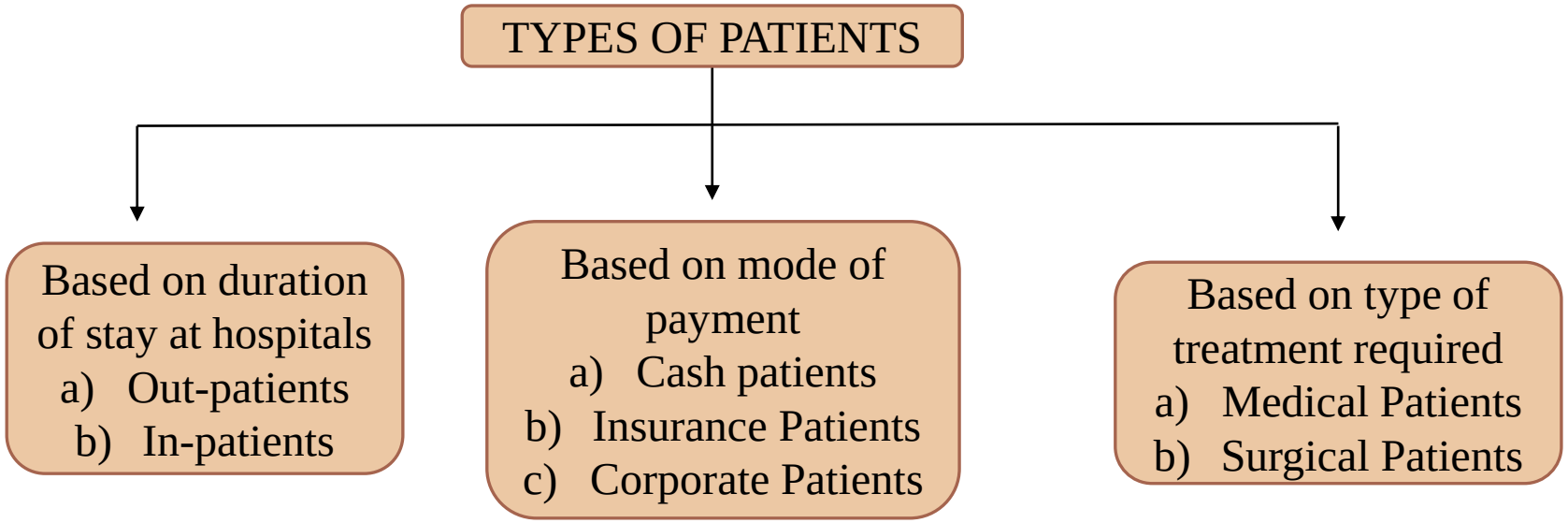
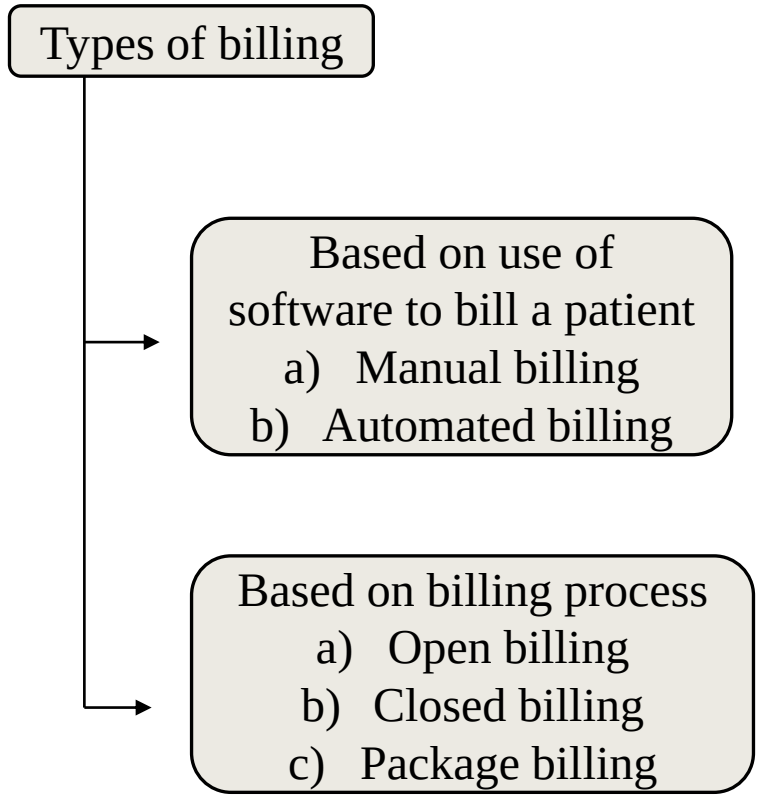
INTRODUCTION

- Hospital billing is the process of creating medical claims to be submitted to payers in order to receive payment for healthcare services rendered by hospital and medical facilities including in-patient and out-patient services.
- Hospital billing is also known as institutional billing and is an essential part of the hospital's revenue cycle.
- It involves the patient, their insurance company or both paying for services rendered by the hospital to the patient.





AUTOMATION OF BILLING

Automation of billing is a process when charge entry, claim scrubbing and remittance are all performed automatically through timers and natural language processing every day, week, or month accordingly.

BENEFITS OF AUTOMATION

- HIGHER EFFICIENCY & PRODUCTIVITY
- REDUCES STRESS ON PTS & BILLERS
- REDUCED TIME & COST SAVING
- IMPROVING COMPLIANCE

PACKAGE BILLING

EXCLUDES

- Food & Beverages, implants, stents etc are excludes
- Any services and items which are not in the include list becomes an exclude.
- In case of any complication, patient might have to undergo additional procedures.

- A type of billing in which a group of services are included within the package for which the patient will have to pay in advance.
- They can be prepared for surgical patients only.
- Packages are prepared by making a list of includes and excludes.

INCLUDES

- Services and items which are included in the package.
- Procedures and investigations that are necessary for the treatment of that surgery.
- Consists of room charges, quantity of drugs, complete blood picture etc

PROBLEM STATEMENT

- It has been observed at hospitals that discharge process of a patient has becomes very time consuming.
- In general, when a patient is given the clearance to go home by the treating physician, nurses/sisters initiate the discharge process.
- For a patient to be discharged, he/she will have to settle their pending dues with the hospitals.
- The biller is supposed to prepare the bill and hand it over to the patient for him/her to settle it.
- A major delay is observed in this procedure.
- The reason can be because
  a) Time consuming billing procedure
  b) Partial automation of billing

MAGNITUDE OF THE PROBLEM

Delay in billing results in

a) To the patients
   - Mental distress
   - Makes patient's feel that their time is not valued for

b) To the hospitals
   - Time consuming
   - Increases the amount of manpower allotted to the process.

Delay in discharge results in

a) To the patients
   - Mental distress.

b) To the hospital
   - There is always a need of empty bed in a hospital.
   - Loss of patient and loss of revenue.

LITERATURE REVIEW

SNO	TITLE	AUTHOR NAME	OBJECTIVE	METHODOLOGY	RESULT
1.	Predictive modelling for turnaround time (TAT) of discharge process for insured patients in a corporate hospital of Pune city	Kasturi Shukla, Shrishti Upadhyay	This study was conducted to find out the reasons for delay in discharges.	A cross sectional study was adopted to conduct this study. The in-patients who were using insurance were taken as sample.	It was observed that submission of discharge summary to TPA and final bill approval from insurance company seemed to sway the discharge TAT.
2.	Insured patients' discharge delays: causes and solution	A Singh, P Ravi,	This study focused on finding out the time taken to discharge insurance patients.	A cross sectional study was carried out. A sample size of 174 patients was collected using systemic random sampling technique.	This study finds that the major delay in discharge is due to delay in sending discharge summaries to TPA or insurance companies and delays in receiving post-auth approvals.

SNO	TITLE	AUTHOR NAME	OBJECTIVE	METHODOLOGY	RESULT
3.	Study on turnaround time of out-patient billing services at super speciality hospital- Chennai	Vigneshwaran S Devi Bhooma	This study was conducted to estimate out-patient billing time	A descriptive study was opted to conduct this study.	It was found that delay in billing was because of delay in obtaining doctor's prescription, phone calls to other departments and cashier billing.
4.	A study of the discharge process of a multi-speciality hospital	Anil Pandit, Savita Prashar	This study was conducted to assess the discharge process and determine the average time taken for the patient to be discharged in a multi-speciality hospital.	A descriptive observational study was conducted. Data was collected from HIS and by observation.	It was found that the time taken for discharges of insurance patients were 7 hours while those of cash patients was 5 hours.

RESEARCH QUESTION

1. Can efficient packages improve and accelerate the billing/ discharge process for patients?
2. Can automation of insurance package billing reduce the billing discharge turnaround time (TAT)?

OBJECTIVES

1. To design surgical billing packages
2. To completely automate the billing procedure for insurance cases of surgical packages

METHODOLOGY

- **STUDY DESIGN-** Descriptive observational study

- **STUDY POPULATION-**

  a. Floor billers
  b. Surgical patients

- **SAMPLING TECHNIQUE-** Purposive sampling method

- **DATA COLLECTION-**

  Data for this study was obtained from hospital's information system. Therefore, the data collected for this study was from a secondary source.

- **STATISTICAL METHODS**

  Microsoft Excel was used to analyse the data. Formulas were used to extract the required data and charts such as bar charts and line graphs were used to represent and analyse the data

INCLUDES

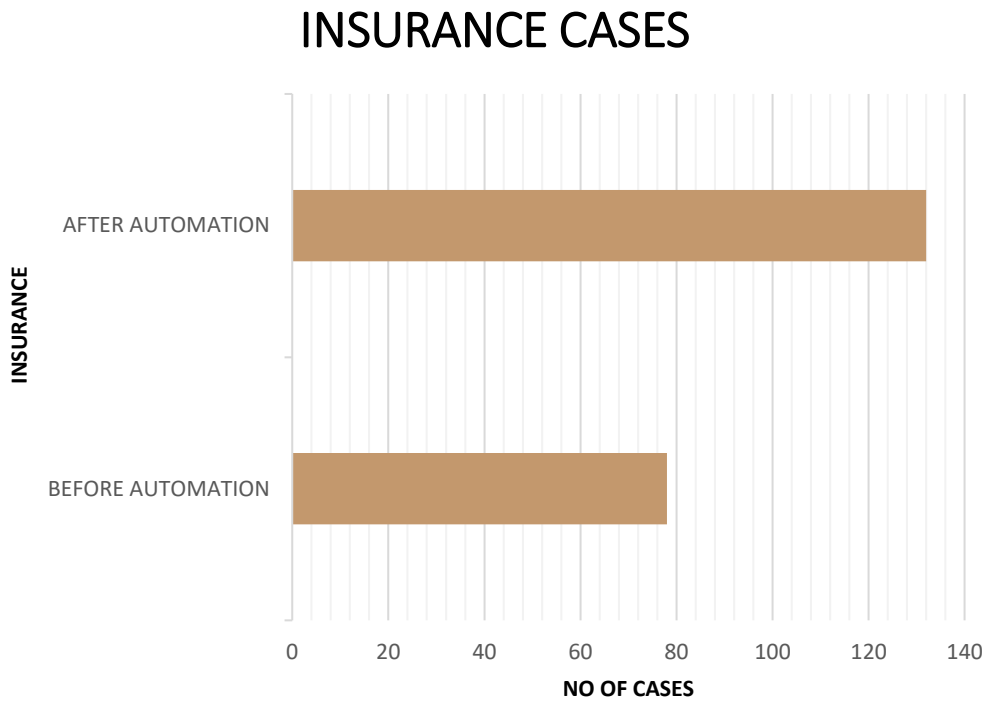
1. Room tariffs- Based on the length of stay of the patient
2. Pharmacy supplies
3. Lab investigations
4. OT charges
5. Instrument charges
6. Professional fees- Surgeon and his/her team's fees, Anaesthesiologist's fees

- Packages for insurance cases are prepared for based on MOUs signed between hospitals and insurance companies.
- MOUs- Memorandums of Understanding
- Packages were prepared for three surgeries
  1. Coronary Angiogram Procedure (CAG)
  2. Percutaneous transluminal coronary angioplasty (PTCA)
  3. Coronary artery bypass graft surgery (CABG)

EXCLUDES

1. Additional room charges- Due to any complication in the surgery, the patient will have to stay a little longer
2. Implants
3. Stents
4. Special drugs- Special dyes
5. Additional procedures- In case of any complications, surgeons may perform additional procedures.

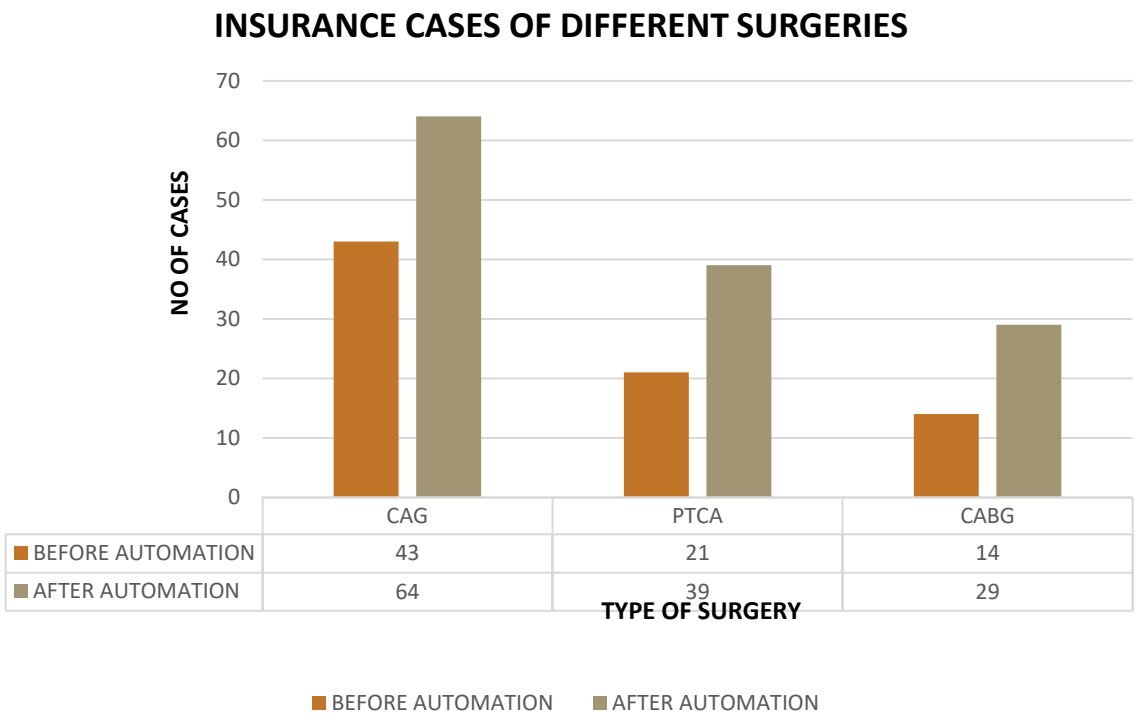
RESULTS & DISCUSSIONS



A clustered bar graph depicting the no. of insurance cases before automating the billing process and after automating the billing process

INTERPRETATION

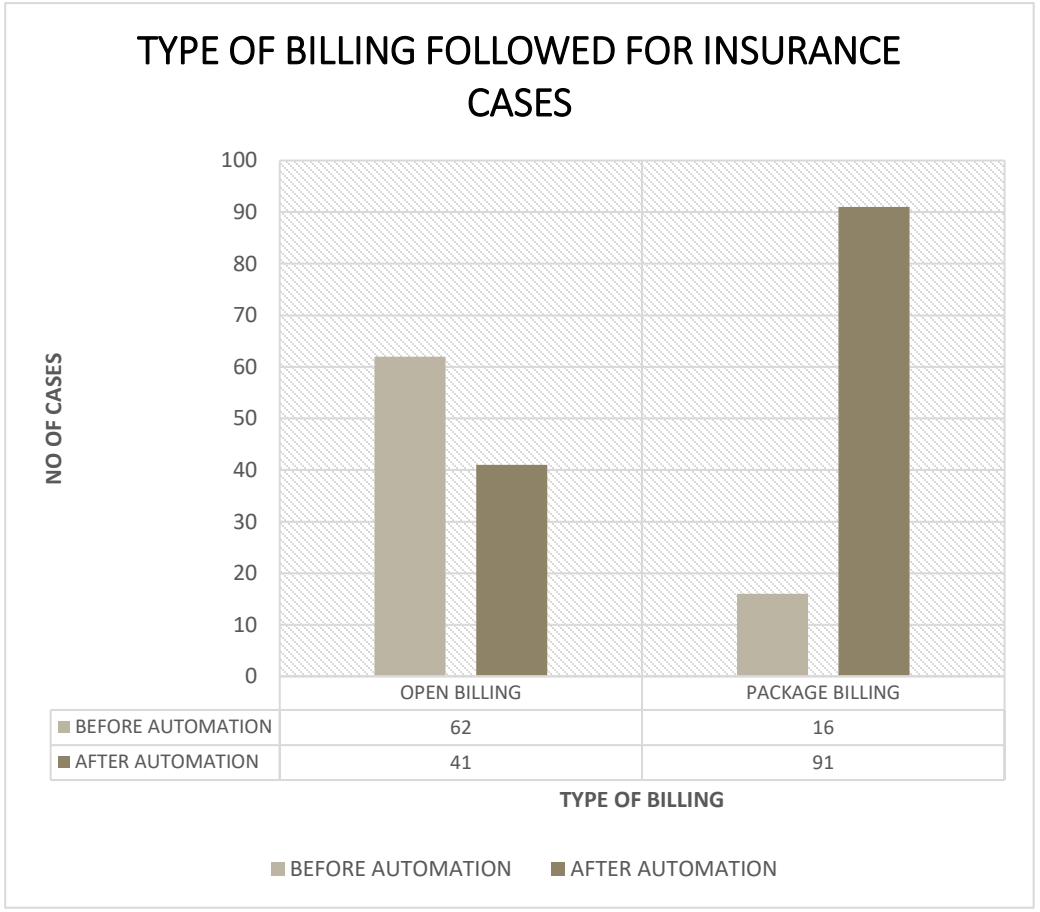
- It can be observed that there is an increase in no of cases.
- This increase can be attributed to increase in tie ups with more insurance companies and addition of those insurance companies to the hospital network.
- Another reason can be due to the general increase in the patient flow of respective surgeries.



A clustered column bar graph depicting the no. of insurance cases of CAG, PTCA & CABG before automation and after automation

INTERPRETATION

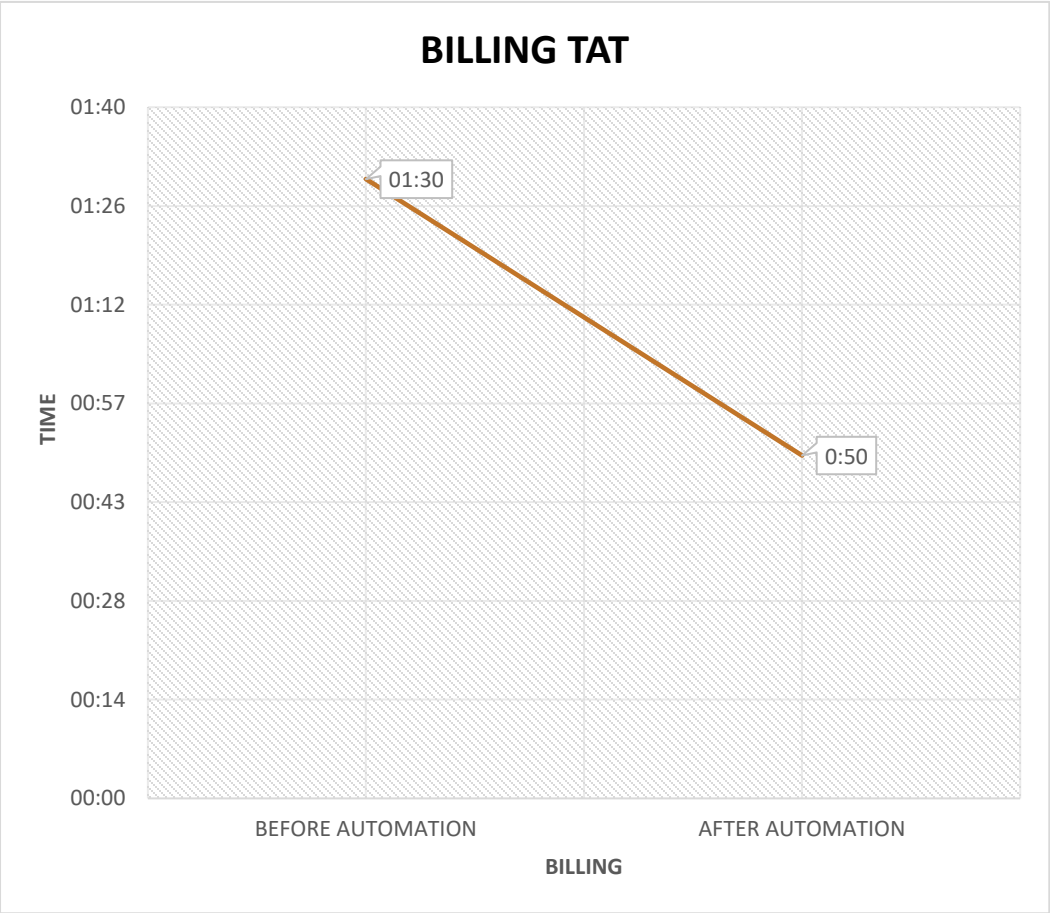
- The comparisons are drawn for insurance cases of coronary angiogram procedure (CAG), percutaneous transluminal coronary angioplasty (PTCA), coronary artery bypass graft surgery (CABG).
- It can be observed that there is an increase in no of cases all types of surgeries.
- This increase can be attributed to increase in tie ups with more insurance companies and addition of those insurance companies to the hospital network.
- Another reason can be due to the general increase in the patient flow of respective surgeries.



A clustered column bar graph depicting the no. of insurance case that have been billed under open billing and package billing, before automation and after automation

INTERPRETATION

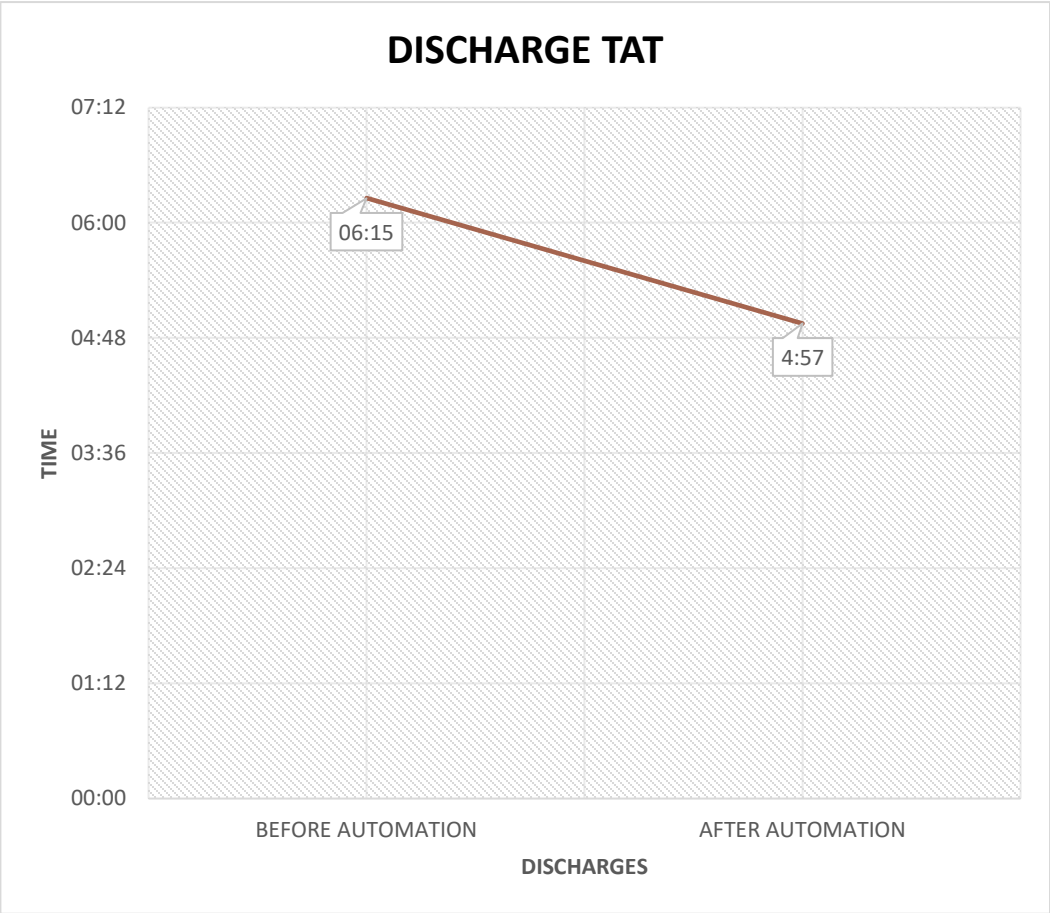
- It can be understood from the figure that before automation majority of insurance cases were being billed under open billing.
- Only a few cases were being billed under package billing.
- This difference is attributed due to manual billing of the surgeries.
- Packages were being billed manually which is why after automation, a rise has been observed in package billing.



A line graph depicting a decrease in billing TAT before automation and after automation.

INTERPRETATION

- Before automating the billing procedure, billing TAT was 1 hour 30 minutes on an average.
- After automating the billing procedure, the billing TAT has gone down to 50 minutes on an average
- It can be observed that there has been a decrease in billing TAT by 40 minutes after complete automation of the billing procedure.



A line graph depicting a decrease in discharge TAT before automation and after automation.

INTERPRETATION

- Before automating the discharge procedure, discharge TAT was 6 hour 15 minutes on an average for insurance cases.
- After automating the discharge procedure, discharge TAT was 4 hours 57 minutes on an average.
- A decrease of 1 hour 18 minutes is observed after automation of the billing process

CONCLUSION

- Hospital billing is a tedious process. Billing process is a multi-step process which plays an important role in discharge process.
- A delay in bill preparation and discharge process of a patient is common to all types of patients.
- Our study focuses on the effects after complete automation of the billing process of insurance surigcal packages. It was proposed that automating of billing process will have a positive affect on the billing and discharge processes. This can be measured using turnaround time (TAT).
- It was observed that there was a decreases of 40 minutes observed in billing TAT and a decrease of 1 hour 18 minutes in the discharge TAT after the complete automation of package billing. Therefore, it can be concluded that automation of surgical package billing has shown a positive effect on billing process which in turn has shown a positive effect on discharge process.

RECOMMENDATIONS

- Automating the billing process brings various benefits
  1. Higher efficiency and productivity
  2. Reduced time and costs saving
  3. Automating billing process reduces stress
  4. Improving compliance
- To implement automation, first and fore most, all the required staff must be taught how to use the software.
- IT Department should conduct a orientation in the beginning involving all related departments and explain to them how the software works.
- IT should be available as and when required to help staff with all their queries.

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THANK YOU ☺