STUDY ON TURN AROUND TIME OF OUT PATIENT BILLING SERVICES AT SUPER SPECIALITY HOSPITAL / AYANABAKKAM – CHENNAI

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ABSTRACT

A time and motion study is an efficiency technique which have to be used together in order to achieve rational and reasonable results. By conducting this research, it is possible to estimate the waiting time in billing process and to suggest the possible ways in increasing the efficiency of the department. The purpose of the study is to identify the process flow activities of outpatient billing department and to find exact time taken for outpatient billing and to improve the patient satisfaction. 122 Sample were used for this descriptive study. Histogram, Control chart, Pareto and Cause and Effect tools were employed to analyse the problem. The result shows that the few vital items for major causes for the delay in outpatient billing were phone enquiry to other departments, doctor's handwriting in prescription, Electronic Data Capture (EDC) machine, and cashieris slow. The main suggestion for reducing the delay in outpatient billing is e-prescription can be given by the doctors for taking tests.

Keywords: Outpatient, Billing, Waiting time, Pareto, e-prescription.

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INTRODUCTION

In today's world, there is intense competition in healthcare market as it is growing very fast. However, to satisfy the health care users, information about the procedures involved during the clinical encounter, and the expected time taken for that procedure should be given which, are generally more satisfied even if there is a longer waiting time.

The main objective of a time and motion study is to determine reliable time standards for the efficient management of operations. By establishing the reliable and accurate time standards, companies can better define their capacity or output and increase the efficiency of equipment and obtain optimum utilization of the workforce.

The results from the time and motion study were very revealing and all sorts of reasons for the delays, which got us thinking, could we design and develop an app that might address some of those delays.

Standard time is the time allowed to an operator/employee to carry out the specified task under specified conditions and defined level of performance or amount of time required to complete a unit of work. It's also known as Turnaround time (TAT).

Outpatient Billing Department:

The billing department ensures the accuracy and transparency in charging the patient for the various services rendered by the hospital and timely delivery of bills. The department focuses on checking all the bills like cash bills, credit bills and other final bills raised during the day and to ensure that the amount is collected for the same. Billing department functions 24 hours, seven days a week. Some of the functions of outpatient billing department are

- Prepare OP bills as per doctor's prescription / OP investigations requisition form
- Comply with policies regarding credit bills, staff & dependent bills and other bills.
- Check the credit authorization letters regarding the eligibility and get the approval from the authorized persons if necessary

REVIEW OF LITERATURE

MA Bashith (2008) assessed that the patient satisfaction regarding the services provided in outpatient department in terms of clinical care, availability of services, waiting time, and cost. He further says patient satisfaction is an important parameter for assessing the quality of patient care services and there is a need to assess the health care systems regarding the patient satisfaction whenever possible.

According to a report from the Fraser institution(Feb 2012), waiting time for certain elective procedures in Canada were the longest in 19 years. The institute's annual survey asked physicians in 10 provinces about the length of time patients wait to receive treatment once a GP has made a referral. Provincial and federal government's health-care spending increases and reforms have focused on reducing wait times.

Dr. Jawaher SK (2012), Outpatient department is a shop window of any hospital. The difficulty that some of the patient faced in the outpatient department was waiting time but still they are satisfied with the hospital if the overall services rendered to them is Good. So waiting time is one of the indicators that can directly or indirectly affect the satisfaction level of the patients but if all other services rendered to them are good then it has a very negligible effect on it.

OBJECTIVE

- ➢ To identify the process flow activities of outpatient billing department.
- ➢ To examine various waiting activities contributing to delay in billing process.
- ➢ To reduce the waiting time of patients in outpatient billing department.
- ➢ To give suggestions for improving patient satisfaction.

METHODOLOGY

The research design of this project is Descriptive which is a type of research that focuses on providing an accurate description of the variables in the problem model. The primary data are those which are collected as fresh and for the first time and thus happen to be original in character. For this study data is collected through observation method. The secondary data are those which are collected by and readily available from other sources like journals, reports, website, newspaper, magazine, books, etc. The duration of the study was 24 days from 11[th]June

2013 to 3rd August 2013.The sampling technique used in this research study is Convenient sampling. The sample size of this study is 122 patients in   outpatient billing department Apollo Hospitals, Ayanambakkam out of population consisting of 648.

Statistical tools used are

Histogram -A histogram is a bar chart / a graphical display of the frequency distribution of the numerical data.

Process Capability-Minimum spread of specific measurement variations which include 99.7 percentage of the measurements from the given process.

Control chart -A control chart is a graph that displays the variations of the data based on a series of random samples taken at regular intervals.

Pareto analysis -It is a statistical technique in decision making that is used for selection of a limited number of tasks that produce significant overall effectand is a combined *bar chart* and *line diagram* based on cumulative percentages and also known as 80/20 rule.

Cause and effect (Fishbone Diagram) - The cause and effect (CE) diagram is a graphical-tabular chart to list and analyze the potential causes of a given problem.

LIMITATIONS: The study was conducted over a period of one month thus the time was a limiting factor and the findings and suggestions are based on observation.

ANALYSIS:

BILLING PROCESS FLOW CHART

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                              BILLING

           IP BILLING                      OP BILLING

                                      QUICK REGISTRATION        NORMAL
                                                                REGISTRATION
  INTERIM        IP FINAL BILLING
  BILLING                              ASK FOR QUICK
                                       REGISTRATION NO. (STICKER
                                       GENERATED) &                 ASK FOR UHID
                                       INVESTIGATION REQUISITION    CARD & SCAN THE
                                       SLIP                         CARD TO OBTAIN
  PATIENT/       ONLINE DISCHARGE                                   THE DETAILS
  ATTENDANT      INTIMATION FROM
  APPROACH       WARDS                 SCAN THE STICKER
  THE BILLING                          GENERATED AT THE TIME OF
  DEPT. WITH                           REGISTRATION TO OBTAIN
  DEPOSIT SLIP/                        PATIENT DETAILS
  ATTENDER
  PASS TO GET                          ENTER THE TEST NAME IN
  INTERIM BILL.                        THE COMPUTER

  INTERIM BILL                                      BRIEF THE PATIENT ABOUT THE
  IS              CREDIT          NO                AMOUNT
  GENERATED       PATIENT
  BY THE
  BILLING                        FOREIGN            MODE OF PAYMENT
  ASSISTANT      YES             CURRENCY

                                                    CASH/DD/CARD
  HANDOVER       CHECKING ELIGIBILITY   CHECK FOR FOREIGN
  THE INTERIM                           CURRENCY VALUE IN
  BILL TO THE                           THE SYSTEM
  PATIENT/                                           BILLS ARE GENERATED
  ATTENDANT      BILL PREAPARATION
                                        CHECK FOR
                                        PASSPORT & ENTER
                 GETTING SIGNATURE      THE DETAILS IN THE      COLLECT THE PAYMENT
                 FROM THE PATIENT IN     SYSTEM                 FROM THE PATIENT
                 THE BILL
                                        INFORM THE PATIENT
                 DISPATCHING CREDIT     THAT BALANCE            HANDOVER THE BILL TO
                 BILL TO CREDIT CELL    AMOUNT WILL BE PAID     THE PATIENT/ATTENDANT
                                        IN INDIAN CURRENCY      REFUND CASH IF ANY
                                        ONLY
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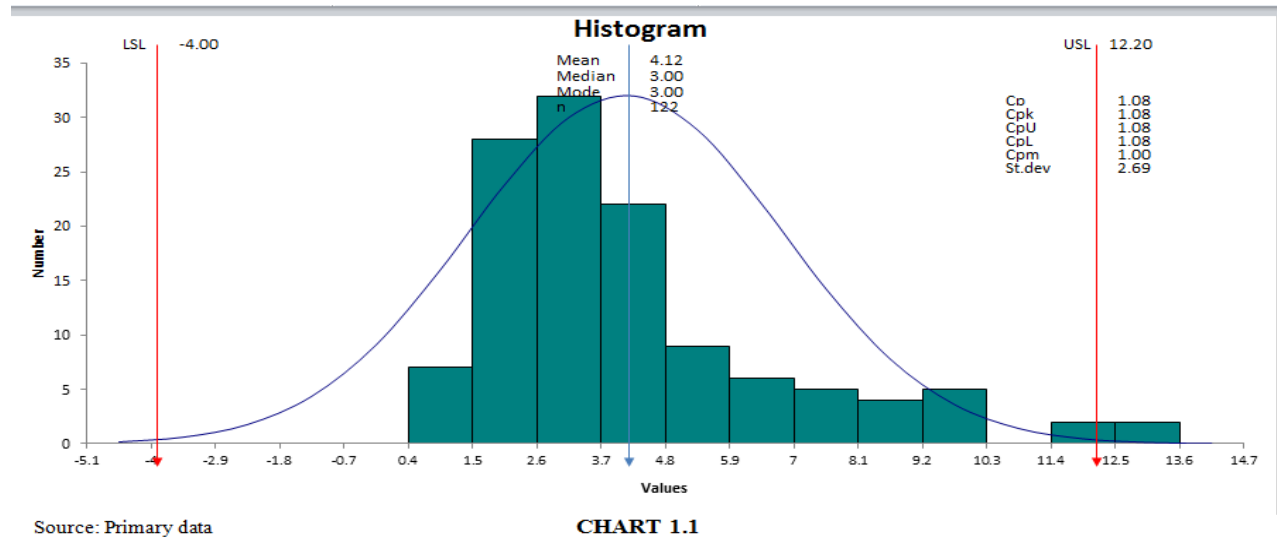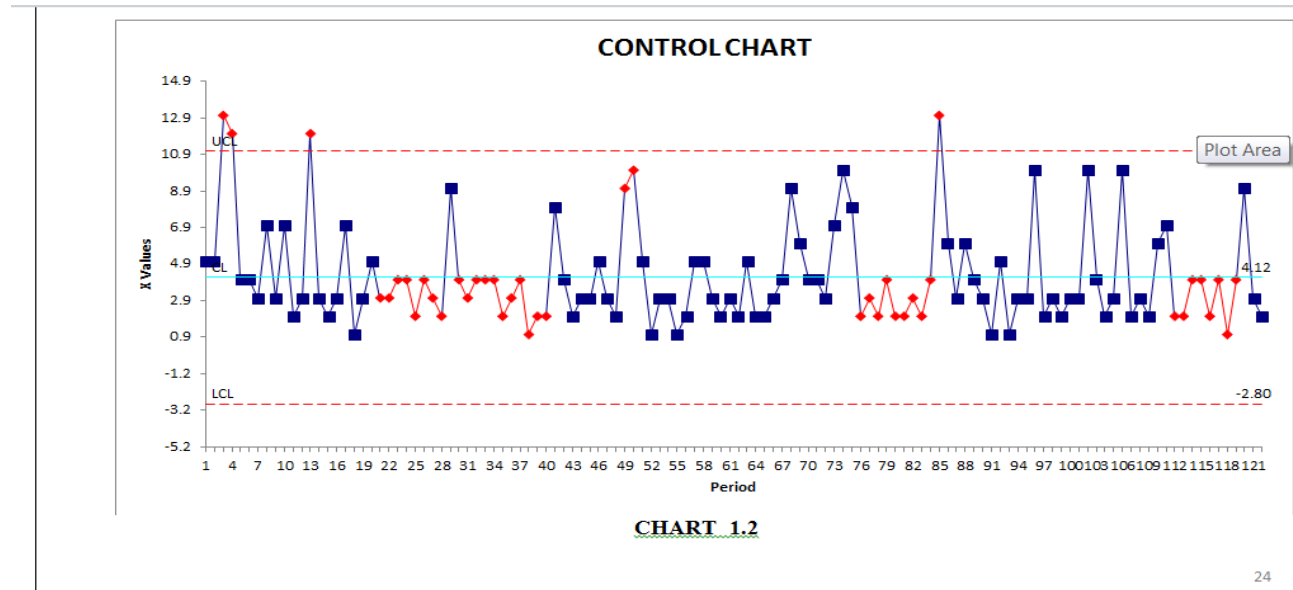
HISTOGRAM & PROCESS CAPABILITY

Source: Primary data   **CHART 1.1**

The above histogram chart shows that the normal frequency distribution of collected data. Cp = 1.08 which means Cp> 1 that the process variation is less than the specification (i.e.) the process is capable of meeting the specifications.
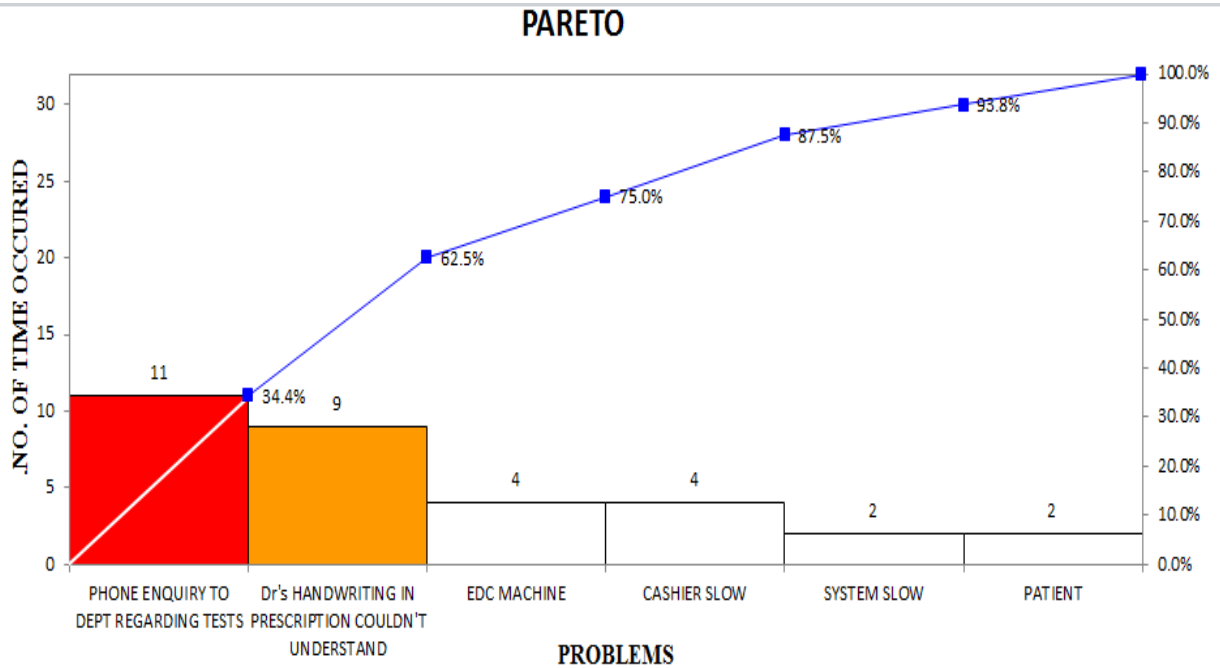
CONTROL CHART

CHART 1.2

The above control chart shows that the subgroup of 32 were not within the control limits and it was found to be out of control among other sub groups. The above control chart shows the points that are closer and above the upper control limit (UCL) which is treated as special cases.

PARETO ANALYSIS

Source : Primary data   CHART 1.3

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The above pareto chart shows that 76.3 percent of problems (vital few) like phone enquiry, doctors handwriting in prescription, Electronic Data Capture (EDC)machine , cashier, account for the major problems in outpatient billing process. The above said problems should be given more attention for better healthcare delivery.

CAUSE AND EFFECT
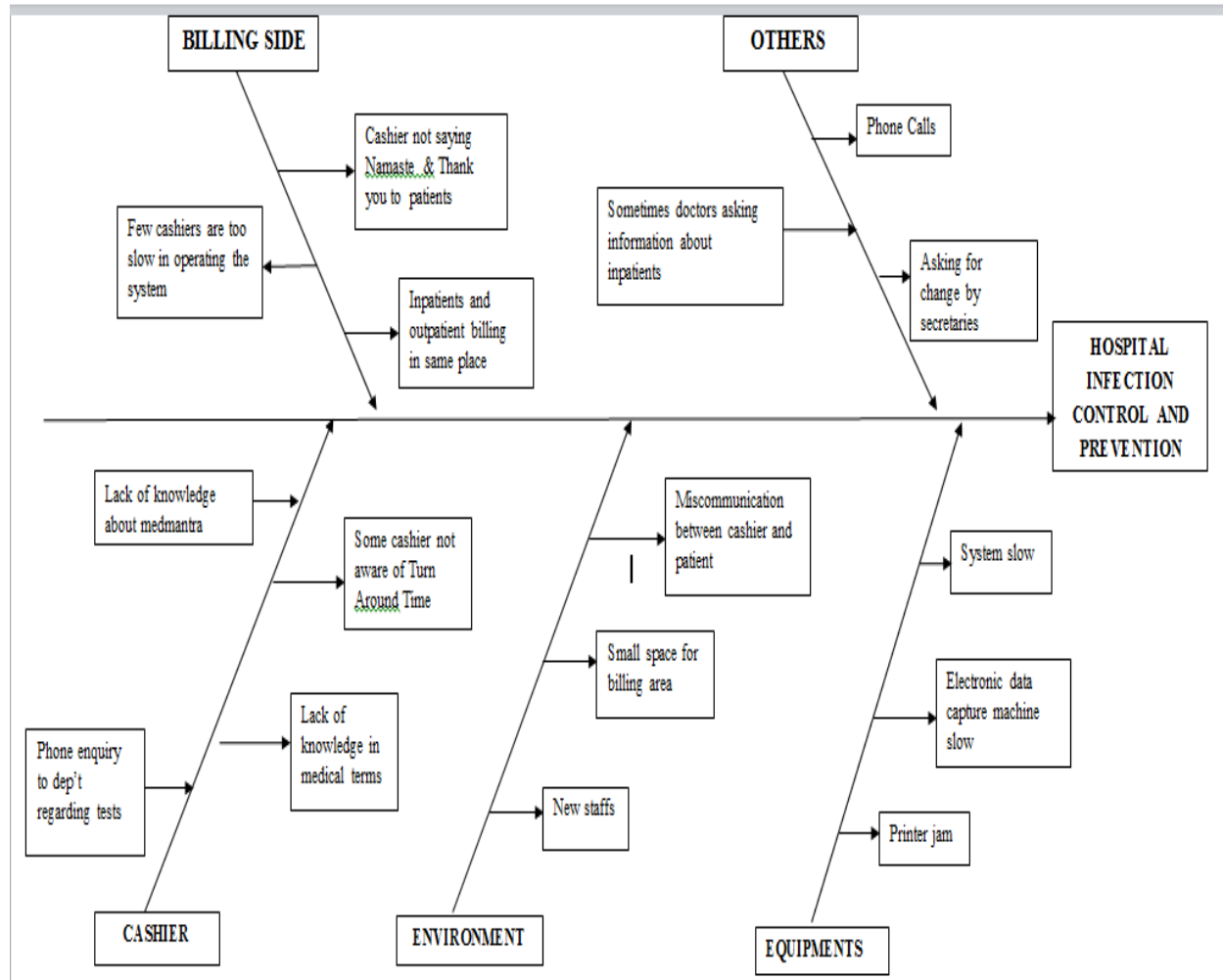
FINDINGS:

➢ Based on histogram and process capability it was found that $Cp = 1.08$ which meansCp > 1 that the process variation is less than the specification (i.e.) the process is capable of meeting the specifications.

➢ Based on control chart it was found that the subgroup of 32 were not within the control limits and it was found to be out of control among other sub groups.

➢ Based on pareto chart it was found that major problems like phone enquiry, doctors handwriting in prescription, electronic data capture machine, cashier, account for the problems in outpatient billing process. So for further improvement one need to concentrate more on those problems

➢ Based on cause and effect diagram it was found that problems like phone enquiry to departments regarding tests, doctors handwriting in prescription couldn't understand, electronic data capture machine slow, cashier, system slow account for the delay in out patient billing process.

RECOMMENDATIONS:

➢ The speed and the capacity of the computers used for billing procedure shall be upgraded.

➢ Additional Electronic data capture machine shall be provided to the billing department.

➢ Doctors shall write the prescription legibly, so that it helps the billing staff to understand the investigation.

➢ Doctors shall use the dashboard option for raising the prescription through Medmantra.

➢ Hospital shall empower the Doctors to use the E- Prescription and necessary training can be given to them in this regard.

➢ Billing personnel shall be trained to familiarize with the aspects of medmantra software.

➢ The Billing manager shall allot the outpatient and inpatient billing work separately to the staffs.

➢ Outpatient and inpatient billing area shall be located separately.

➢ The billing staffs shall be made aware of outpatient billing Turnaround time (TAT)

The secretaries in charge of outpatient department shall use the billing option available in secretary dashboard.

CONCLUSION:

The study concludes that the following factors such as delaying activities, the outpatient billing services and the quality of service provided to the patients are identified through analysis. Patients attending each hospital are responsible for spreading the good image of the hospital and therefore Satisfaction of patients attending the hospital is equally important for hospital management. In this study, it was found that 74 percent of the out patients bills are done within the turnaround time (TAT) of 5 minutes. In order to increase the efficiency of the outpatient billing process to the maximum level the given recommendations can be followed.

MANAGERIAL IMPLICATIONS:

- By reducing the waiting time of patients in outpatient billing department;

- The patient satisfaction will be improved.

- The patient's inflow will be increased.

- The hospital revenue will be increased.

- The image of the hospital in the community will be improved.

- The Quality of healthcare services will be improved.

Further the study can be extended with larger population and the above quality tools can be used to improve the various processes in different areas in the hospital to enhance patient satisfaction.

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