Internship Training

at

Venkateshwar Hospital, Dwarka, New Delhi

Assessment of Turnaround Time for Discharge Process in Venkateshwar Hospital, Dwarka, New Delhi

by

Ms. Radhika Uppal

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Under the guidance of

Dr. Sanjiv Kumar

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ABSTRACT

Background: Discharge Turnaround Time is one of the vital indicators and is the time interval from the time a consultant approves discharge to the time when all formalities for the same have been completed. Timely hospital discharge is one of the major problems and also one of the lengthy procedures. Admission and discharge processes act as bottleneck and adversely affect the efficiency of hospitals. Delay in discharge process leads to hospital bed demand exceeding the capacity, further leading to delays in admission of new patients, transfers and cancellation of planned surgical procedures. The present study was conducted to understand the discharge process, evaluate the time utilized at various steps of discharge process and also analyze the complete discharge turnaround time of cash, credit and TPA patients.

Methodology: A cross-sectional study was carried out for a period of 1 month from April 2019 to May 2019 in inpatient department of Venkateshwar Hospital, Dwarka, New Delhi. This study was a time and motion study; the total sample size 235 patients was collected. Out of these discharges 67 cases were cash patients, 90 were credit and 78 were TPA / insurance patients. The sampling method / technique used was convenient sampling.

Result: The study was able to map the whole process of discharge and identify the gaps and various predictor variables (various TAT's) that caused delay in achieving turnaround time for discharge process. In 80.5 % of cases the TAT for cash patient and in 75.5 % of cases the TAT for credit was much higher than standard set by Venkateshwar hospital i.e. 120 mins, also TAT for 52.5 % of TPA patients was much higher than set standard by Venkateshwar hospital i.e. 300 mins. Also, the TAT for 52.2 % of cash patients, 41.1 % of credit patients and 94.8 % of TPA patients was exceeding when compared to NABH standards i.e. 180 mins.

Conclusion: Few problems that resulted in majority of defects were**;** delay in summary finalization by doctor, delay in pahrmacy return, delay in financial clearance by attendant and delay in pharmacy return by nursing and focussing on these will reduce the time utilized at various steps of discharge process and drastically improve the TAT for complete discharge process.

Keywords: Discharge Process, TAT, NABH, Cash, Credit, TPA

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LIST OF ABBREVIATIONS

OP - Outpatient

IP– Inpatient

NABH - National accreditation board for Hospitals

TAT - Turnaround Time

TPA - Third-Party Administrator

LAMA - Leave Against Medical Advice

DOR – Discharge on Request

HIS - Hospital Information System

UID - Unique Identification Number

PSU - Public Sector Undertakings

MWH – Man Working Hours

MT – Medical Transcriptionist

GDA – General Duty Assistant

DOA - Date of Admission

DOD – Date of Discharge

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SECTION A

ORGANIZATION PROFILE

INTRODUCTION

At Venkateshwar Hospital, state of the art technology and dedicated medical practitioners have been brought together under one roof for giving ethical medical care. Equipped with the most modern equipment and Information Technology, practitioners work together as a team to provide the best possible treatment to all the patients.

Vision: To position ourselves in the lead role on the global healthcare map

Mission: To achieve global excellence in healthcare with evidence based ethical clinical practices by the team of highly skilled professionals by using cutting edge technology

Values:

- Ethical Healthcare
- Commitment to Quality
- Respect for Individual
- Trust
- Integrity
- Compassion
- Equality
- Innovation
- Social Responsibility
- Human Dignity
- Excellence
- Transparency

SPECIALTIES

Centers of Excellence:

1. Critical Care

Critical Care is a specialty that specifically deals with the human responses to life threatening problems. The critical care physician (Intensivist) is someone who has necessary training and expertise in the evaluation and management of the critically ill patients.

Hospital's priority is to save as many lives as possible within realistic expectations. To meet the highest standards, we try to provide total care to the patients by involving doctors from different specialties as may deem necessary for different patients.

The Intensive Care Unit is a state-of-the-art unit with 100 Critical Care beds segregated into different ICU to provide a more focussed care as per established protocols. ICU's are managed with the belief that, well planned Critical Care services and implementation does influence overall outcomes and quality parameters like mortality, ICU length of stay, infection rates etc.

They have Isolation cubicles with positive/negative pressure air flows and 1:1 Nursing Care around the clock. They have assembled the latest equipments for patient management including high-end Monitoring (Philips), Advanced Philips V 680 and Trilogy 200 Ventilators for Non-Invasive/Invasive Artificial Respiration, Philips Defibrillators, fully equipped Dialysis Unit for Renal Support in ICU, highly trained Cardiology Unit for any need for IABP, LVAD etc. We have a point of care Ultra-Sonography for USG Guided Central/ Arterial line insertion, Hemodynamic Monitoring and to help in all aspects of patient management. The trained Critical

Care team makes every effort to optimise the nutrition status of the patient in consultation with the in-house dietician.

The goal is to practice evidence-based medicine and incorporate the latest guidelines in patient care management to achieve best possible patient outcomes.

2. Cardio Thoracic & Vascular Surgery

Cardio Thoracic and Vascular Surgery Centre brings to Venkateshwar Hospital an unmatched expertise and quality of surgical care through a team of highly qualified, experienced and internationally trained Cardio-Vascular Surgeons and Cardiac Anaesthesiologists. They are well versed in treating all aspects of Coronary, Valvular, Congenital and other Heart problems. They are also experienced in managing Aortic, Vascular and Thoracic diseases.

This experienced Heart Team is equipped with the latest technology and state-of-the-art infrastructure which will provide an international level of surgical care, which is unparalleled in excellence and ethics.

The Highlights of the CTVS program are:

- Heart failure Surgeries like Left Ventricular Assist Devices, Ventricular Remodelling& finally building a Program of Heart Transplant
- Beating Heart & Mini Invasive Cardiac Surgeries
- High-end Aortic Surgeries like Aortic Root Replacements (i.e. Bentall Surgery) and Complex Vascular Surgeries

State of The Art Equipment's in Cardiac OT

- Most Advanced Cardio- Pulmonary Bypass Machine (Heart Lung -CPB)
- Extracorporeal Membrane Oxygenator (ECMO)
- Intravascular Laser (RFA) Machine
- Transesophageal Echocardiography (TEE)
- Two Modular Cardiac Operation Theatres with the most advanced Anaesthesia& Monitoring Systems

3. Dental Sciences

Venkateshwar Centre of Dental Excellence is a unique state-of-the-art facility in the field of dentistry, which houses perfect combination of high-end technology and a team of specialised and experienced Doctors to meet all your dental needs.

Venkateshwar has a team of highly skilled doctors who have worked and researched in various fields of modern dentistry. As the technology is advancing fast, they are also updating and upgrading ourselves to keep ourselves at par.

This centre provides advanced technologies like CAD CAM Scanners, Cerac One Visit Crowns, Lasers, Invisible Braces, OPG, Retreatment of Failed Root Canal, Painless Root Canal and much more.

The hospital strongly promotes preventive dentistry with special emphasis on Minimal Invasive Dentistry, which is the paradigm shift in the field. They also follow comprehensive multistep sterilisation procedure according to global standards. Their primary focus is to make patients feel happy and satisfied.

Services Provided

- Acute Emergency Dental Services
- Preventive Dentistry
- Restorative Dentistry
- Prosthetic & Implant Dentistry
- Geriatric &Paediatric Dentistry
- Oral Maxillofacial Surgery
- Orthodontic Dentistry
- Aesthetic Dentistry
- Laser Dentistry
- Digital Dentistry
- Dental Retreatments

Advanced Technologies

- Digital OPG
- Digital Scanner & CAD CAM
- Crowns in a day
- Full Mouth Rehabilitation using Implants/Crowns
- Laser Dentistry
- Invisible Braces
- Minimally Invasive Dentistry
- Zirconia Crowns

4. Gastroenterology & Hepatology

At Gastroenterology & Hepatology Centre, hospital specializes in the surgical management of Gastrointestinal diseases using evidence-based guidelines with ethical and patient friendly approach. Equipped with a most modern facilities and caries out almost all major GI, Hepatobiliary and Pancreatic procedures, and the centre also has an active Bariatric Surgery programme.

The centre's aim is to provide state-of-the-art surgical services for patients of Digestive, Liver and Pancreato- Biliary diseases and to facilitate training & research in the field of Digestive & Hepatobiliary Sciences. The mission is to be a care provider of first choice, for the patients who seek surgical management for Gastroenterology and Liver diseases.

Specialized Procedures

Upper GI procedures

- Esophagectomy, Transhiatal and Ivor Lewis
- Gastrectomies Luminal
- Small Bowel Resections
- Surgery for Ulcerative Colitis
- Surgery for Colorectal Cancer

Luminal

- Small bowel resections
- Surgery for ulcerative colitis
- Surgery for colorectal cancer

Diagnostic and Therapeutic Management

- Gastroscopy and Colonoscopy
- Biliary Obstruction (cancers and stones)(ERCP)
- Bleeding Varices and Ulcers
- Endoscopic Ultrasonography
- Capsule Endoscopy
- Double-balloon Enteroscopy
- Endoscopic resection (EMR and ESD) of polyps and early cancers
- Advanced endoscopic imaging (Narrow band imaging & chromoendoscopy)

5. Gastrointestinal, Minimal Access Surgery & Liver Transplant

The Centre of Gastrointestinal, Bariatric, Minimal Access Surgery & Liver Transplant provides comprehensive Surgical Management for Gastro Intestinal diseases. The Team has extensive experience in surgical procedures for cancers involving the entire digestive tract e.g. the Esophagus, Stomach, Colon and the Rectum.

The team is specially trained in Minimal Access Surgery and routinely performs Laparoscopic Surgery for various Gastro Intestinal diseases including Cancers of the Esophagus, Stomach, Colon and Rectum.

They perform Hepato-Pancreato-Biliary (HPB) Surgery, which includes complex operations involving the Liver, Pancreas and Biliary Tree.

Surgery for Gastro-Intestinal Diseases

- GERD, Hiatus Hernia , Achalasia cardia
- Surgery of the Small Intestines
- Intestinal Obstruction
- Ulcerative Colitis
- Gastro Intestinal Bleeding
- Incisional Hernia
- Esophageal and Gastric Cancer
- Colon Cancer
- Rectal Cancer

Gastro Intestinal BleedingSurgery For HepatoPancreato Biliary Diseases (HPB Surgery)

- Gall Bladder Stones
- Bile Duct Strictures
- Acute and Chronic Pancreatitis
- Cysts of Liver Portal Hypertension Surgery
- Liver Cancer
- Obstructive Jaundice and Cholangiocarcinoma
- Gall Bladder Cancer
- Pancreatic Cancer
- Liver Transplantation

Liver Transplantation

- Deceased Donor Liver Transplantation

- Adult Living Donor Liver Transplantation
- Paediatric Liver Transplantation

6. Neurology &Paediatric Neurology

Venkateshwar Hospital has world-class Neurology Services available for both In and Out patients. The state-of-the-art centre provides care for a variety of Neurological conditions related to the Brain, Spinal Cord and the Nervous system.

Experienced team of Neurologists provides excellent clinical care for Neurological disorders and carries out its own clinical research and trials. The Neurology department has facilities like: Latest 256 SLICE CT (Computed Axial Tomography) Scan, Neck and Head Ultrasound, and 3TESLA MRI (Magnetic Resonance Imaging). Team also carries out Neurophysiologic studies of patients including : EEG and EMG to ensure best possible care.

The medical history of the patient is taken by our Neurologists in the beginning of the treatment, followed by a physical examination. The examination helps to evaluate the condition of the patient's Nervous System on the basis of the following factors: cognitive function, cranial nerves, motor, sensory reflexes, and coordination.

Treatment plans differ from patient to patient, depending upon the type of Neurological disorder. Patients are often referred to a physiotherapist, speech therapist, or psychotherapist; put on medications, advised on lifestyle modification or referred to a Neurosurgeon when a surgery is needed.

The facilities of Physiotherapy and Neurosurgery are also available.

Some of The Common Neurological Conditions Treated at The Department Are

- Strokes (CVA) with TPA Therapy/FCH
- Dementia
- Meningitis
- Cephalitis
- Attention Deficit (Hyperactivity Disorder)
- Parkinson's Disease
- Neuropathy/Myopathy
- Sleep Disorders
- Neuromuscular Disease
- Multiple Sclerosis
- Botox Therapy/Movement Disorder
- Hand Therapy System
- State-of-the-Art Neuroelectrophysiology Department

Centre of Paediatric Neurology aims to integrate exceptional medical expertise, technology and innovation to offer the best state of the art care to children from the new-born period to 18 years of age. The Centre provides diagnosis and treatment for children with Neurological disorders such as childhood epilepsies, childhood headaches including migraine, nervous system infections like meningitis, tuberculosis andneurocysticercosis, neurometabolic, neurodegenerative, childhood stroke and autoimmune diseases. The centre is well prepared to evaluate Childhood Behavioral Disorders such as habit disorders (teeth grinding, thumb sucking, body tics, etc.),

aggressions, hyperactivity, attention deficit and conduct problems (stealing, lying, abusive language, etc.).

State-of-the-art multidisciplinary facilities under one roof are available for the comprehensive care of children with multiple disabilities and comorbidities such as in cerebral palsy, mental sub-normality, developmental disorders like Autism, childhood spinal cord, peripheral nerves and muscular disorders.

7. Neurosurgery

Neurosurgery is one of the most challenging specialties in the field of medicine, which deals with the diseases of the Brain, Skull, Spinal Cord and Spinal Column as well as the Peripheral Nerves. Advances in Neurosurgical Techniques along with the latest technological innovation in tools and equipments have resulted in excellent treatment outcome. Minimally Invasive and Endoscopsic Neurosurgery contributes to a much shorter Hospital stay, better patient comfort while maximising the efficacy of the procedure. With the availability of a qualified and highly experienced team and latest state-of-the-art equipments, hospital's constant endeavor is to excel in patient care so that the outcome exceeds the International norms and standards.

The Centre of Neuro and Spine Surgery is well supported by experienced Neurologists, Neuroanaesiologists, Critical Care Specialists, Neuroradiologists, Neuropathologists and Neurorehabilitation Therapists.

8. Orthopaedics& Joint Replacement

The Orthopaedics and Joint Replacement Centre provides comprehensive care in the field of Orthopaedics by experienced and highly skilled surgeons backed by highly advanced and the world-class technology and post-operative physical rehabilitation by Physiotherapists.

The Joint Replacement Centre chooses Minimally Invasive Surgical Techniques (MIS), Navigation Technology and High Quality Prosthesis to provide quick functional recovery and a shorter hospital stay. For early Osteoarthritis patients, the cente provides Unicondylar (Partial Knee Replacement) for a pain free life. They have the expertise to treat shoulder and elbow arthritis by Total Shoulder and Total Elbow Replacement.

Hospital's Arthroscopy and Sports Injury Centre is well equipped with the latest Arthroscopic system and instruments to provide treatment for all common sports related Injuries like ACL Tear, PCL Tear, Meniscal Injury, Chondral Damage, Recurrent Patellar Dislocation, Recurrent Shoulder Dislocation, Rotator Cuff Injury, Slap Lesion and Shoulder Impingement. Doctors are supported by expert physiotherapists for speedy recovery and provide rehabilitation to bring the patient to a pre injury level and start sports activity quickly.

The Limb Reconstruction Centre provides treatment for all types of deformity in Upper and Lower Limbs. The correction is done by Osteotomy and Limb Lengthening using Ilizarov and Rail Fixator Technique. By using this technique, Limb Length can be increased upto 10cm.

Trauma Center provides a multidisciplinary treatment involving General Surgeons, Neurosurgeons, Chest Physicians, Intensivists, Plastic Surgeons, In-House Blood Bank and state-of-the-art ICU care to treat cases of Poly Trauma. Our Doctors are trained in using Minimally Invasive Technique for better tissue healing, scar and faster fracture union.

Services Joint Replacement

- Total Knee Replacement
- Partial (Unicondylar) Knee Replacement
- Total Hip Replacement
- Revision Hip and Knee Replacement
- Total Elbow Replacement
- Total Shoulder Replacement

Arthroscopy & Sports Injury

- ACL/PCL Reconstruction
- Meniscal Repair
- Chondroplasty
- Bankart's Repair
- Rotator Cuff Repair
- SLAP Repair
- Sub Acromial Decompression

9. Pulmonology & Sleep Medicine

The Centre of Pulmonology and Sleep Medicine with the whole spectrum of Respiratory diseases that involve the Lungs, Airways, Mediastinum, Pleura, Diaphragm and the Chest Wall. Hospital also deal with disorders that affect the breathing indirectly like Neuromuscular Disorders and Sleep Disorders.

The prevalence of Respiratory Diseases is increasing worldwide and particularly in Delhi due to pollution, growing urbanisation and smoking because of which, various diseases like: Asthma, COPD, Bronchiectasis, Tuberculosis, Sarcoidosis, Pneumonias, Chest Traumas, Pneumothorax, Pleural Effusions, Mediastinal Lymphadenopathy, Lung Cancer, Sleep Disorders, Allergies and Respiratory Failure are frequently encountered these days and need specialist management.

The Centre is well equipped with advanced Pulmonary Function Testing Lab, Video Bronchoscopy and Thoracoscopy. We also possess the state-of-the-art, Endobronchial Ultrasound (EBUS) System with both Linear and Radial probes to perform real time and safe procedures.

Another highlight of the centre is the fully Equipped Advanced Sleep Study Lab (Polysomnography) to perform Overnight Studies, Split Studies, Titration Studies and Multiple Sleep Latency Testing.

Services Offered

- Outdoor and Indoor Services (The department provides outdoor services daily)
- Non-Invasive Ventilation
- Invasive Ventilation & Critical Care including ECMO
- Smoking Cessation Therapy
- Pneumonia & Influenza Vaccination

10. Haemato Medical Oncology & Bone Marrow Transplant

The Centre of Haemato-Medical Oncology and Bone Marrow Transplant is an integral part of Venkateshwar Cancer Centre, Dwarka. The overall mission and goal of Department is to deliver advance Haemato-Medical Oncology care in a compassionate way to all their patients and to provide world-class treatment. Hospital's endeavour is to achieve excellence in basic research, and cancer treatment through multidisciplinary collaboration with Surgical and Radiation Oncology. Evidence based Treatment as per recent guidelines is our focus of endeavour.

Hospital is well-equipped with the recent diagnostics like: Flowcytometry, Immunohistochemistry and Molecular Diagnostics &Onco Pathology Lab. The Centre also intends to establish a world class Bone Marrow Transplant Centre to facilitate all variety of Bone Marrow Transplant particularly for Peripheral Stem Cells, Autologous, Allogenic & focus on Haploidentical and Matched Unrelated Donor Transplant (MUD).The Centre is also supported with Radiological services like PET-CT Scanning, 3 Tesla MRI, Bone Scan, CT Scan & Blood Bank.

The treatment is based on patient according to the stage and his/her performance status and comorbid conditions. The recent cancer therapies are target oriented like Immunotherapy (PD- 1 & PD- L1), Angiogensis Receptor Target, CDK- 4 & 6 Inhibitors Bone Marrow Transplant is option in Benign as well as Malignant Hematological conditions like MDS, Multiple Myeloma, Lymphomas, Leukemia and Aplastic Anemia. Clinical research is an integral part of Venkateshwar Cancer Center in collaboration with National and International Cancer Institutes.

The goal of Comprehensive Cancer Center is to provide multi-disciplinary cancer care under one roof.

11. Radiation Oncology

Radiation Centre is committed to providing the best-in-class comprehensive Radiation Oncology services under one roof. The available technology and equipment are comparable to that available in the most advanced centres across the globe. Hospital's services combine the capability of state-of-the-art technology with the expertise of medical staff to treat their patients with comfort and compassion.

The meticulous treatment plans include specialised computer-based planning systems involving:

Three-Dimensional (3D) reconstructions of Computer Tomography (CT) Images and 3D Dose Distribution Algorithms that uses the targeted and regulated doses of high-energy radiation to kill Cancer cells. A protocol-based approach is used for the management of Brain Tumors, Head and Neck Cancers, Breast Cancers, Gynaecological Cancers, Urological, Malignancies, Bone and Soft Tissue Sarcomas, Lymphoma, PaediatricTumours, Gastro-Intestinal Cancers and Lung Cancers to ensure an international standard of care. Our Radiation Oncologists work closely with Medical Oncologists, Onco-Surgeons and other specialists to carve out the most appropriate treatment for our patients.

Hospital strives to provide the best in class treatments which is affordable and accessible to everyone. The OPD & IPD services provide planned as well as emergency care in the most comfortable manner. The pain and palliative services ensure that the medical care continues even when the patient has advanced and terminal stage diseases where maintaining the quality of life and dignity is the supreme priority for us.

12. Surgical & Gynae Oncology

Surgery is the primary treatment of choice in many early stage Cancers. Removal of tumour by surgery is a fast and the most effective way to eradicate the disease. Venkateshwar's Surgical Oncologists are highly experienced and trained for difficult Cancer surgeries. They play a vital role in every sphere of Cancer Care, from diagnosing, staging, treatment following up and supportive care. To start treatment itself our surgeons access the tumour directly by FNAC or under image guidance Needle Biopsy for Tissue Diagnosis.

Once the tumor is completely removed, its histopathology report gives biological knowledge and correct staging of the disease. Complete staging helps to plan further treatment, to forecast expected outcome and the overall the result of treatment. With better understanding of tumor biology and revolutionary developments in Radiation Oncology and Medical Oncology, there is a shift from radical Surgery to lesser Radical Surgery with emphasis on preserving organ as well as good functioning.

Nutritionists, Physiotherapists and Clinicians work together to support healing and quality of life.

Gynaecologic Oncology is a specialised field of medicine that focuses on Cancers of the Female Reproductive system, including ovarian cancer, uterine cancer, vaginal cancer, cervical cancer and vulvar cancer. Our specialists have extensive training in the diagnosis and treatment of these cancers. Gynae Oncologists are also trained to treat pre-invasiv e lesions of vulva, vagina and cervix by both ablation and excisional techniques.

13. Nephrology, Urology & Kidney Transplant

Nephrology Centre is a state-of-the-art setup geared to manage any form of Nephrological Emergency. It has facilities to treat cases with Acute Kidney Failure, Chronic Kidney Failure,

Renal Hypertension, General Nephrology, Dialysis and those needing Renal Transplant. For Critical Care Nephrology, we have facilities of ‘’Slow Low-Efficiency Dialysis (SLED)’’, ‘’Continuous Renal Replacement Therapy’’ (CRRT) and ‘’Plasmapheresis’’. Dialysis centre is ultramodern with 11 Dialysis Stations with separate set up for Hepatitis B and HIV patients. The Dialysis Centre is functional round the clock and is manned by with a very experienced dialysis staff.

The Centre has excellent backup support of Urology, Pathology, Radiology and Nuclear Medicine. It runs daily OPD’s with lot of focus on Preventive Nephrology. The Nephrology Department follows International guidelines and can claim to be one of the finest in the city.

Facilities Available

- Daily OPD Services
- Outpatient Dialysis Unit
- Inpatient Dialysis Facilities
- Continuous Renal Replacement
- Treatment (CRRT)
- Slow Low Efficiency Dialysis (SLEDD)
- Plasmapheresis
- Renal Biopsy
- Catheter Insertion
- Kidney Transplant
- Critical Care Nephrology
- Interventional Nephrology

- Preventive Nephrology

Other Specialties:

1. **Anaesthesia**

   The Department of Anaesthesia has a team of dedicated, focused and highly experienced health care professionals, providing comprehensive care in the areas of pre-operative anaesthesia evaluation, Pre-Operative Patient Management, Intensive Care Emergency and Trauma Services. This department also provides round the clock Anaesthesia services for Emergency and Elective Surgical procedures, across all specialties like Oncology Surgery, Neurosurgery, Joint Replacement, Obstetrics and Gynaecology, Urology and Kidney Transplant, Minimal Access surgery and Day Care Procedures etc. Hospital also has a Pain Care Unit, providing services for Acute and Chronic Pain Management.

2. **General & Laparoscopic Surgery**

The General and Laproscopic Surgery Department is manned 24x7 by an experienced and dedicated team of Consultants and aims to provide modern Surgical treatment options for the patients

The department is committed to the principles and practices of the WHO Global Initiative of "Safe Surgery Save Lives" to provide ethical and evidence-based surgical options to the patients.

Services Offered For

- Trauma– Surgery and Care

- Tumours – Diagnostics and treatment of soft tissues treatment for Cysts and Tumours of the Salivary Glands, Thyroid, Parathyroid, Adrenal, Breast, Lipoma and Tumours of the Abdomen
- Abdominal surgeries such as Gall Bladder, Advanced Laparoscopy, Appendix, Intestines (Open/Laparoscopic Surgery)
- All kinds of Hernias–Treated by both Open and Laparoscopic Surgery, depending on the patient's condition
- Ano rectal diseases– Such as Abscesses, Fistula, Fissure and Piles
- Stapled Hemorrhoidectomy with many benefits to the patient such as minimal blood loss, less pain and early recovery
- Infective conditions such as– Abscesses and Diabetic Foot are taken care of. We emphasise on and early rehabilitation of the patient
- Diseases of the veins such as Varicose Veins
- Weight Loss Surgery

3. Physiotherapy

Venkateshwar Hospital has joined hands with Physical Therapy Clinic which is a contemporary physiotherapy organisation in the Delhi NCR. The mission of this organisation is alleviation of pain, impairment and disability through therapy. It is our endeavor to achieve success in our mission through professional care based on the principles of research and evidence-based practice.

The clinic specializes in patients with a wide variety of sports, orthopedic, pediatric, geriatric, women's health, medical, surgical and neurological disorders. The Physical Therapy Clinic is managed across three locations by Dr Bela Sethi (PT), a renowned

physiotherapist who has over 40 years of clinical experience in the Delhi NCR region and a highly qualified team of physiotherapists.

4. Bariatric & Weight Loss Surgery

Weight Loss Surgery, also referred to as Bariatric Surgery, currently provides one of the most effective therapies for Diabetes, High Blood Pressure, Sleep Apnoea, Arthritis, Asthma, Acid Reflux, Infertility and High Cholesterol.

Most weight loss surgeries today are performed using Minimally Invasive Techniques (Laparoscopic Surgery).

Services

- Gastric Bypass
- Sleeve Gastrectomy
- Adjustable gastric band
- Biliopancreatic diversion with duodenal switch.

5. Internal Medicine

At Venkateshwar Hospital, Internal Medicine Department provides consolidated care to both In and Out patients, along-with-care for hospitalised patients with other broad ailments .

It is a mother specialty as it takes care of Hospitalised and Ambulatory Patients and provides medical cover to all surgical and other sub-specialities with a broader vision and expertise. Internists often have subspeciality interests in diseases affecting particular organs or organ systems. Internal Medicine or General Medicine deals with the prevention, diagnosis and treatment of adult diseases.

The Department is well equipped to manage chronic health conditions such as diabetes, hypertension, lifestyle and obesity, thyroid disorders, lipid abnormalities and various febrile illnesses like, dengue, chikungunya, malaria, respiratory infections, joint pains and septicemic conditions.

Services Offered

- OPD Services
- 24x7 IPD Services (includes Wards & ICU)
- 24x7 Emergency Services

6. Clinical Psychology

The Department focuses on all types of mental health concerns like stress, anxiety & depression.

Various Psychological Therapies/ Counseling used are:

- Behavior Therapy
- Cognitive Behavior Therapy
- Family Therapy/ Family Counseling
- Pre-Marital Counseling
- Marriage Counseling
- Therapy for Sexual Disorders
- Individual Counselling

7. Rheumatology

The Department of Rheumatology provides comprehensive treatment for conditions such as Arthritis, Low Backache and Rheumatism. The department has introduced innovative, scientific and guided Rheumatologic Interventional Techniques in Therapeutic Armamentarium.

The state-of-the-art facilities administered by the expert medical staff of the Rheumatology Department have already helped many patients. In Rheumatology, the main emphasis has been towards the treatment of Autoimmune Inflammatory disorders like Rheumatoid Arthritis, Systemic Lupus Erythematosus, Ankylosing Spondylitis, Dermatomyositis, Sjogren's Syndrome, Progressive Systemic Sclerosis as well as Chronic Degenerative diseases like, Osteoarthritis. Hospital's expertise is in the treatment of Crystal Arthritis including Gout and CPPD Disease.

8. Dermatology & Aesthetics

The Dermatology and Aesthetic Centre is designed to provide a comprehensive range of medical and surgical treatment for skin and hair related problems. Our centre, supported by the cutting-edge technology. The Aesthetic Centre is equipped with the world-class equipment including lasers. For treating unwanted facial and body hair, they are using the most effective and one of the world's best laser machine from Germany- Mediostar Next Pro. It is painless, giving best results in both, thick or fine, facial and body hair. All skin imperfections including pigmentation, skin sagging, marks, scars, pores, acne etc. are being treated by the best doctors, to give you the desired clear, luminous, and youthful skin.

9. Pathology & Lab Medicine

Venkateshwar Hospital has a state-of-the-art laboratory with highest end machines which provide precise and prompt results for all routine and special blood tests. The wide spectrum of diseases that this department deals which covers varioyus diseases ranging from common allergies to rare cancers. Complete diagnostic support for oncology services is provided with tumour markers and immunoassays. Fully automated histopathology lab which can process frozen sections (provide intraoperative tissue diagnosis) and sophisticated immunohistochemistry for exact tissue typing, is handled with expert care under a well-trained team. Gene expert machine for diagnosing drug resistant tuberculosis and doing molecular testing for cervical cancers, chronic leukemia and viral loads for HIV is present in the microbiology section which also has a fully automated blood culture and identification with antibiotic sensitivity machines for various microbes. The Haematology and biochemistry machine are run with stringent controls and accurate results are available in stipulated time frame. The lab motto of five Ps -Perfect, Precise, Prompt Patient care with Politeness is actually palpable here.

Histopathology in Oncology Cases

- Frozen section for instant diagnosis during surgery
- Immunohistochemistry for an exact diagnosis of Cancers
- Special histochemical tests
- Cytospin cytology with cellblock
- Same day FNAC and PAP Smears
- USG and CT guided cytology/FNAC
- Review of slides/blocks for second opinions by expert and trained Oncopathologists

10. Dietetics & Nutrition

The Department of Dietetics and Nutrition at Venkateshwar Hospitals, Dwarka:

- Promotes individualised medical nutrition therapy in a multidisciplinary approach as a means to optimise patient care.
- Prevents or minimises the presence of malnutrition that often accompanies acute or chronic diseases.
- Provides effective nutrition education to patients and family members in a variety of patient care settings.
- Functions as an integral component in support of education and research in collaboration with the doctors.
- Provides ongoing education in all aspects of Nutrition.

The Department of Dietetics & Nutrition offers Nutritional Services and Counselling for Inpatients and Outpatients. The department has highly trained nutritionists with experience in the management of diverse patient groups viz.

- Adults
- Neonates and paediatrics
- Critically ill patients requiring specialised nutrition support
- Patients dealing with terminal Illnesses and Lifestyle diseases (Diabetes, Hypertension, Metabolic Syndromes, Cardiac Problems)
- Patients recuperating post-surgery and infections
- Patients requiring Medical Nutrition Therapy for GI Diseases, Kidney Disorders, Endocrine Disorders, Lung Diseases, Hepato-Biliary Disorders.

- Individuals requiring Nutrition Care during special life-phases such as Pregnancy, Lactation, Old age, Disabilities Altering Nutritional intake.
- Patients with specific conditions viz. Allergies, Lactose Intolerance and Malabsorption syndromes.
- Weight management

Nutritionists work in close coordination with the Doctors, Clinical and Nursing Teams to ensure that patients receive appropriate Nutritional support at all times. Patient-focused quality care is the center of everything for the department.

11. Ophthalmology

The Ophthalmology Department at Venkateshwar Hospital is powered by Mohan Eye Institute. It is designed to provide a comprehensive range of medical and surgical eye care to the patients of all age groups. Treatment plans are designed for the protection, preservation, enhancement and restoration of your vision, for any age group.

Out Patient Procedures

- Computerised Eye Testing
- Treatment for Glaucoma (Medical/Laser/Surgery)
- Diagnostic Services & Eye Exams
- Preventive Eye Check up
- Computer Vision Syndrome (CVS)
- Contact Lens Fitting
- Glaucoma Investigations
- Refraction

- Orthoptic Exercises
- Visual Fields (Perimetry)
- Squint work up / Diplopia Charting
- Colour Vision
- Retina Clinic

12. Imaging & Interventional Radiology

MRI Services:

Neuro Imaging

- DTI (Diffusion tensor imaging)
- SWIP (Multi echo susceptibility weighted imaging)
- MR Spectroscopy
- MR Neurography
- TSE DWI (Diffusion weighted image)
- Carotid Plaque Imaging
- Functional Imaging

Body Imaging

- Artifact free Torso Imaging Focus Scan
- Non-Contrast Angiogram
- Liver Fat Quantification
- Whole Body Metastasis Screening

MSK Imaging

- Cartilage Map

MR Radiotherapy Planning

13. Diabetes, Endocrinology & Metabolic Disorders

The Department of Diabetes, Endocrinology and Metabolic Disorders provides patient care for all hormone-related diseases.

State Of The Art Endocrine Therapeutic Options Available

- Diabetes (Type 1 , Type 2, secondary , all complicated forms)
- Intensive Insulin Therapy/ Insulin Pump
- Diabetes during Pregnancy
- Diabetic Foot & Wound Care
- Clinical Dietetics
- Gynaecological
- Endocrinology (Polycystic Ovary Syndrome)
- Bone Health (Once a year treatment for Osteoporosis)
- Growth Problems in children
- Puberty disorder in children
- Male & Female Infertility
- Male & Female Sexual Disorder
- Pituitary Disorder

- Endocrine Tumours& Cancers (Thyroid , Parathyroid , Aadrenal)
- Adrenal Venous Sampling
- Intensive treatment for lipid disorders
- Minimally invasive endocrine surgery (Thyroid, Parathyroid, adrenal)
- Inferior Petrosal Sinus Sampling
- Advanced Endocrinology Laboratory Services
- Advanced Nuclear Medicine Endocrine Services

14. Paediatrics& Neonatology

The Department of Paediatrics and Neonatology promotes the health of children and adolescents with a balanced approach, delivers high quality comprehensive clinical care and service, advocates vigorously for children and adolescents, and is responsive to the changing needs of community and society. Department has a dedicated team of highly qualified Paediatricians and Neonatologists that take care of all babies right from their first breath. The Staff understands the importance of caring for the Medical, Emotions, Developmental, Spiritual, Educational and Social well-being of a child. Each delivery is attended by a Neonatologist. We take care of all newborns including very fragile preterm at our state of the art Neonatal Intensive care unit with utmost commitment. Our NICU is equipped with Ultramodern Incubators, Open Care systems, Ventilators including High - Frequency Oscillators, CPAP, LED Phototherapies, etc., which is manned by highly trained Nursing Staff. PICU is also suitably equipped to take care of all Paediatric Intensive Care needs. Paediatric Neurology specialty is headed by well experienced Paediatric Neurologist and is having well equipped laboratory.

Scope Of Services

- **Outpatient services** including general checkup, well baby clinic, high risk baby clinic and vaccinations
- **Emergency management** of all Paediatric and Neonatal problems, round the clock
- **Paediatric Neurology** OPD, Psychobehavioural assessment and counselling and tests like EEG, Video EEG, EMG, NCV, VEP, BERA etc.
- **NICU services** including phototherapy for neonatal jaundice, care of preterm, Invasive and Non-Invasive Ventilation, Neonatal surgeries etc.
- **PICU services** including assisted ventilation, management of severe Asthma, Seizures, Shock etc.
- Lactation Counselling

15. Transfusion Medicine

The aim of a Blood Transfusion Service (BTS) is to provide effective blood and blood components, which are as safe as possible and adequate to meet the patients need. Hospital's department uses stringent quality control protocols to ensure timely supply of the safest possible blood and blood components. They also make a stringent quality control policy which is compliant to all existing statutory provisions of the Drugs and cosmetic act 1940 and amendments, other directives from Drug Controller General of India, National Blood Policy, NACO guidelines on HIV screening and NABH guidelines. Blood is carefully screened for transfusion transmitted infections (HBsAg, HBcAb, HCV, HIV I& II- using ELISA Technology along with RPR and Malarial Antigen Testing).

16. ENT & Cochlear Implants

The Department of ENT and Cochlear Implants provides its patients with the finest technology and the most experienced manpower to provide the best medical facilities. It has state-of-the-art facilities for Cochlear Implants, Endoscopic Sinus Surgery and Snoring Treatment.

It has evolved into one of the most advanced and sophisticated departments across India, and believes in providing medical facilities of the highest standard at an affordable rate to all. The Department conducting Head and Neck Surgeries, Endoscopic Sinus Surgery and Snoring Surgery are other strong wings of the centre. The center is equipped with sophisticated ENT treatment units, advanced Audiology & Vestibular testing facility, Video Endoscopy, Ear Microscope examination facilities, etc.

17. Obstetrics &Gynaecology

The centre of Obstetrics and Gynaecology offers a broad spectrum of woman's health care from teenage to post-menopausal women. There is a provision for Preventive Care, Maternity Services, Advanced Laparoscopy, Minimal Invasive Surgery and Gynae Oncology.

The department is equipped with state-of-the-art facilities to provide affordable and comprehensive care. For the first time in Dwarka, West-Delhi we bring you the concept of LDR-Labour Delivery Room, where the mother progresses through labour, delivery and recovery in the comfort and privacy of one room which provides you a home like ambience. LDR is located close to the operation theater and nursery in the event that the mother or baby may need to be shifted for additional care.

Apart from LDR, hospital has a well equipped Maternity Complex with advanced Maternal Foetal Monitors to follow the progress of labor. They provide the facility for painless delivery round the clock. The complex also includes highly sophisticated NICU (Neonatal Intensive Care unit) to provide the highest level of care to newborns. Hosppital also provides, complete outpatient and inpatient gynaecological care, using the latest Minimally Invasive modalities like Laparoscopic, Hysteroscopic andColposcopic procedures for various gynaecological disorders like Fibroids, Endometriosis, abnormal Uterine Bleeding etc. Vaginal surgeries and conventional abdominal surgeries are also done with great expertise. Other facilities include, Reproductive Endocrinology and Gynae Oncology for cancers.

18. Foetal Medicine

A vast range of conditions treated are:

- Intrauterine transfusion
- Fetoscopic laser photocoagulation for TTTS
- Radio frequency ablation for monochorionic pregnancies
- Fetal shunt placement
- Amniotic band resection
- Ex-utero intrapartum treatment (EXIT)
- Selective Embryo Reduction

19. Plastic, Reconstructive & Cosmetic Surgery

Procedures:

- Aesthetic plastic surgery

- Reconstructive surgery
- Craniofacial surgery
- Reconstructive microsurgery
- Paediatric plastic surgery
- Laser surgery
- Hand surgery

SECTION B

PROJECT REPORT

ASSESSMENT OF TURNAROUND TIME FOR DISCHARGE PROCESS IN VENKATESHWAR HOSPITAL, DWARKA, NEW DELHI

INTRODUCTION

A hospital provides distinct type of services to outpatients (OP) and to inpatients (IP). Outpatient is a patient who receives ambulatory medical care and overnight stay is not a prerequisite whereas an inpatient is a patient who stays overnight for the purpose of receiving inpatient assistance or care. These inpatient services are divided in three different phases. The first phase is admission, second is medical intervention and the last phase is discharge.

As per National accreditation board for Hospitals (NABH), Discharge is the process by which a patient is shifted out from the hospital with all concerned medical summaries after ensuring stability. The discharge process is deemed to have started when the consultant formally approves discharge and ends with the patient leaving the clinical unit.

Discharge Turnaround Time (TAT) is one of the vital indicators and is the time interval from the time a consultant approves discharge to the time when all formalities for the same have been completed.

Timely hospital discharge is one of the major problems and is also one of the very lengthy procedures. Admission and discharge processes act as bottleneck and adversely affect the efficiency of hospitals. Delay in discharge process leads to hospital bed demand exceeding the capacity, further leading to delays in admission of new patients, transfers and cancellation of certain planned surgical procedures.

With pressing patient demand, limited resources and rising cost of capital, optimizing processes and improving patient flow is a vital operations management strategy. The complete process of discharge is convoluted and is subjected tocertain challenges that limit generalizability of intervention.

Efficiency in discharge process is vital and is also one of the quality indicators. National accreditation board for Hospitals (NABH) has laid down a standard of 180 minutes for TAT the discharge process. Hence, maintaining fair level of discharge time provides competitive edge to the organization.

As per the policy of Venkateshwar Hospital, Dwarka, New Delhi; the TAT for discharge of cash&credit patients is 2 hours, whereas for TPA patients it is 5 hours.

The present study was conducted to understand the internal hospital process in the discharge procedure, evaluate the time utilizedat various steps of discharge process and also analyze the complete discharge turnaround time of cash, credit and TPA patients.

AIM AND OBJECTIVE

The study was conducted with an aim to first understand the discharge process and then identify various factors causing delay in the same.

SPECIFIC OBJECTIVES:

1. To evaluate the TAT for discharge process after the consultant formally approves discharge
2. To identify different factors that determine the total discharge time and;
3. To identify different measures that can contribute in reduction of the total discharge time

LITERATURE REVIEW

1. Shukla, K., & Upadhyay, S., (2018) conducted a cross sectional study on inured inpatients in a corporate hospital for a period of two months. They calculated various TAT's of the discharge process, also studied the effect of turnaround time of various steps of the discharge process on complete discharge TAT. As per Shukla and Upadhyay the average discharge TAT for insured patients was too high, also the intervening TAT's for presenting discharge summary to TPA department and final bill approval from insurance company had highest predicting effect on the final discharge TAT. There was no significant difference in discharge TAT of planned / unplanned discharges, but it did significantly increase for patients with high Length of Stay (LOS). In order to control delay in TAT, insurance companies and hospitals should make combined efforts and further hospitals should have a robust system in place and must check that there is timely submission of discharge summary and essential reports.

2. El-Eid,*et al* (2015) implemented Six Sigma methodology to improve discharge time. A quantitative pre and post-intervention study was conducted. Six Sigma relies on a structured approach and to uncover root cause, Define, Measure, Analyze, Improve and Control (DMAIC) method is applied. A multidisciplinary team was set up and focus was on improving the processes that contributed to delay in discharging patients. The primary outcome for this study was discharge time, whereas the secondary outcomes were percent patients discharged after noon, percent orders written before noon and hospital length of stay. The results demonstrated that there was notable decrease in the discharge time, a considerable portion of patients vacated their room before noon, also hospital LOS dropped

in the post intervention phase. Henceforth, from this study it could be concluded that Six Sigma methodology can be a valuable change management tool to improve the discharge time only if core principles of methodology are applied.

3. Hamid, *et al* (2018)an observational time and motion study for discharge process was carried out for a period of three months in General Medicine and General Surgery wards of inpatient department of Sheri- Kashmir Institute of Medical sciences (SKIMS). A total of 710 cases were studied. Discharge patients of all type of discharges, consisting of self-payment patients, Insurance patients and Discharge Against Medical Advice (DAMA) revealed that average time taken for discharge process was markedly higher when compared to the standards prescribed by NABH i.e. 180 minutes. The results also revealed that in fifty percentof cases patients discharge was taking more than set standards of NABH. Hence to reduce the time taken, the researcher highlighted need of a ward-based manager to coordinate and monitor discharges.

4. Tak, S., Kulkarni, S., & More, R., (2013) conducted a time and motion study in a tertiary care hospital in Pune. Time interval from consultant writing orders for discharge to completion of billing process was noticed and measured using a stop watch. A semi structured interview was also conducted on the discharge patients about the discharge process and the total time taken for its completion. The mean time taken for each step of discharge procedure was noted and compared against the standards shared by NABH i.e. Preparation of discharge summary (30 minutes), Return of unutilized medicines to pharmacy (30 minutes), Clearance from all departments (60 minutes), Preparation of bill (30 minutes), Bill settlement

/ approval (30 minutes). For each step the average time was remarkably higher when compared with the above standard time, except in one step where the time taken for return of unutilized medicines was more or less, at par with NABH standards (30 minutes). Feedback was also collected from all discharge patients and most of the patient in all type of discharges felt that the discharge procedure was tedious and majority of them felt that the discharge procedure should be expedited and more simplified. Researcher highlighted need of hiring adequate staff, trained personnel with good communication skills for better interaction. The researcher also suggested hospital administrators to conduct periodic time and motion study and identify reason for delay and correct them, plus a need of strong HIS.

5. Sunil, *et al* (2016) study was limited to M.S. Ramaiah Hospital, Bangalore. All inpatients who got discharged from the hospital in the month of March 2016 were considered for the study. Break time of discharge was recorded from all wards. The results demonstrated that most of the patients about fifty percent of the discharge was taking more than the standards prescribed by NABH i.e. 180 minutes. On correlation and regression analysis it was found that billing time contributed the most to the total time taken for discharge. Discharge summary writing was another factor adding on to delay in discharge of patients. The researcher highlighted the need of ward-based managers, relevant guidelines for the staff involved in the discharge process and effective coordination between all departments. Emphasis was also made on counselling of patients regarding importance of billing prior to day of discharge.

METHODOLOGY

Study Design:

A cross-sectional study was carried out for a period of 1 month from April 2019 to May 2019 in inpatient department of Venkateshwar Hospital, Dwarka, New Delhi. This study was a time and motion study; the total sample size 235 patients was collected. Out of these discharge 67 cases were cash patients, 90 were credit and 78 were TPA / insurance patients. The sampling method / technique used was convenience sampling.

Study Criteria:

Inclusion criteria:

Study population included:

1. All planned and unplanned discharges between 9am-2pm

Exclusion criteria:

1. All those patients / cases were excluded who were planned for discharge after 2pm
2. Day care, Leave Against Medical Advice (LAMA) and Discharge on Request (DOR) cases were excluded from this study
3. Also discharges done on Sunday / night discharges

Data Collection, Tool and Technique:

Data was collected by primary and secondary sources

1. Primary Source:
    - Since it was a time and motion study data for discharge advised, discharge summary preparation + finalization and pharmacy return timewere collected on real time basis as these time frames were not captured by Hospital Information System (HIS)
    - Participatory Observation
    - One to one discussion with floor coordinators, nurses, pharmacists and billing executives. (Appendix 1)
2. Secondary Source:
    - Data for other steps in discharge process was captured from hospital's HIS

Tools and Techniques:

All time intervals for quantitative study were recorded in a track sheet, formulated and entered in an excel spreadsheet and then analyzed to meet set objectives.

Data was recorded in this sequence.

1. Date
2. S. No
3. Bed No.
4. UID – Unique Identification Number

5. Consultant Name
6. Department
7. Company Name
8. Payor Type
9. Discharge Advised by Doctor (T-1)
10. Type of Discharge –(Planned / Unplanned)
11. Discharge Summary Preparation Time (T-2)
12. Discharge Summary Finalization Time (T-3)
13. TAT for Summary Finalization (TAT- 1)
14. Pharmacy Return Ready Time (T-4)
15. Pharmacy Return Time (T-5)
16. TAT for Pharmacy Return (TAT- 2)
17. Pharmacy Clearance Time (T-6)
18. TAT for Pharmacy Clearance (TAT- 3)
19. File Sent for Billing (T-7)
20. File Receiving Time (T-8)
21. TAT for Initiation of Bill Preparation (TAT- 4)
22. Bill Preparation Time (T-9)
23. Bill Closure Time (T- 10)
24. TAT for Bill Preparation (TAT- 5)
25. TAT for Bill Closure (TAT- 6)
26. TAT for Complete Discharge Process (TAT- 7)
27. Remarks – Reasons for delay at various intervals were recorded

Discharge was categorized into planned and unplanned discharge. Planned discharges is when patient's discharge is planned a day prior the actual day of discharge, whereas unplanned is advised by consultant on the actual day of discharge.

As this was a quantitative study predictor / independent variablewere various TAT's that were calculated at various stages of discharge process and these are explained below:

1. TAT- 1- (TAT for Summary Finalization) is the time interval from initiation of discharge summary preparation to discharge summary finalization by consultant
2. TAT- 2- (TAT for Pharmacy Return) is the time taken from pharmacy return ready time to return pick up time by transportation department
3. TAT- 3- (TAT for Pharmacy Clearance) is the time taken for pharmacy clearance
4. TAT- 4- (TAT for Initiation of Bill Preparation) is the time taken from when the file is sent for billing via GDA to file receiving time by billing department
5. TAT- 5- (TAT for Bill Preparation) is the time taken for bill preparation after file is received
6. TAT- 6- (TAT for Bill Closure) is the time taken by the patient / attendant for settlement of final bill
7. TAT- 7- (TAT for Complete Discharge Process) is the overall time taken in completion of process of discharge from doctor's written order of discharge on case sheet till bill settlement / closure by patient

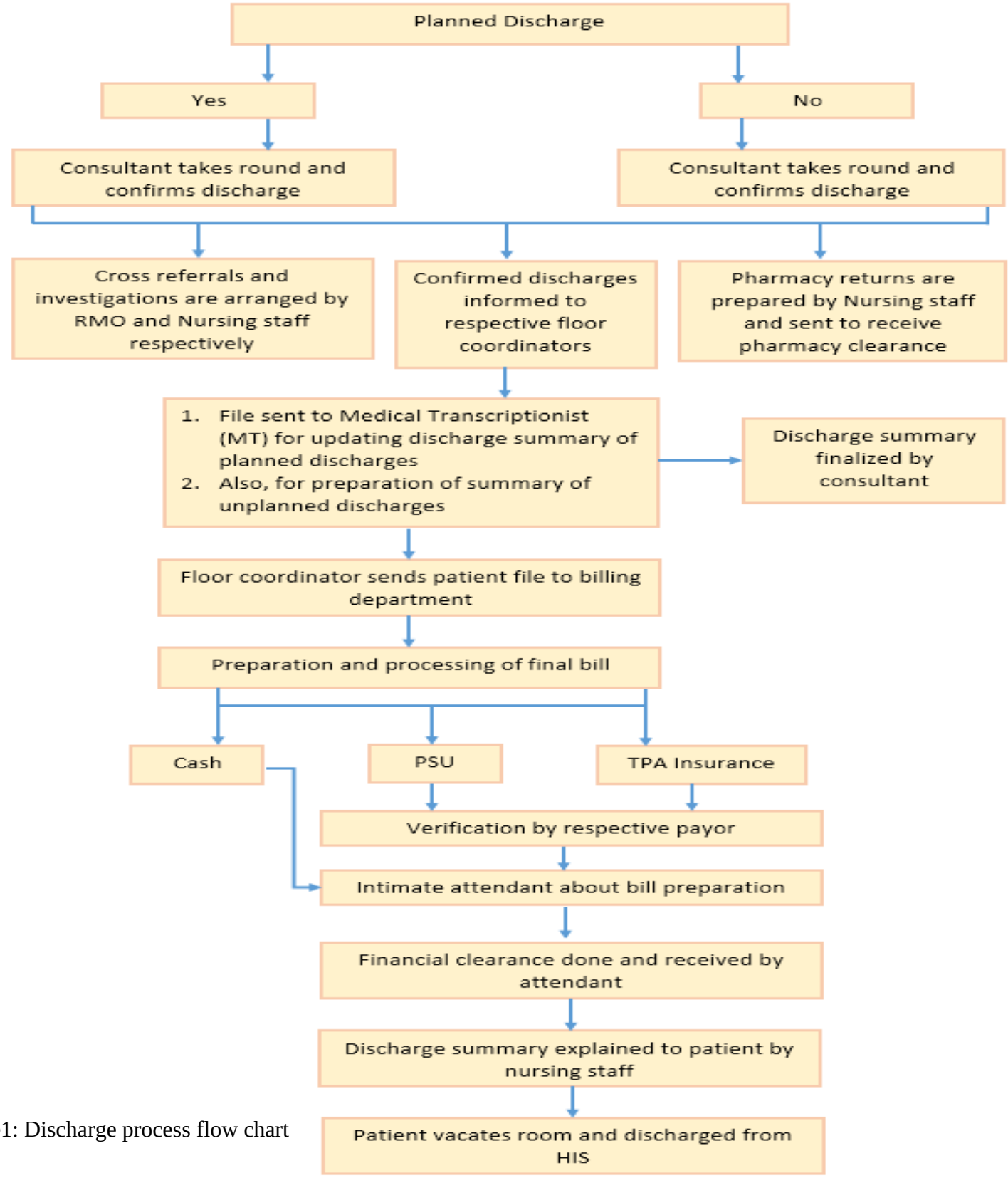
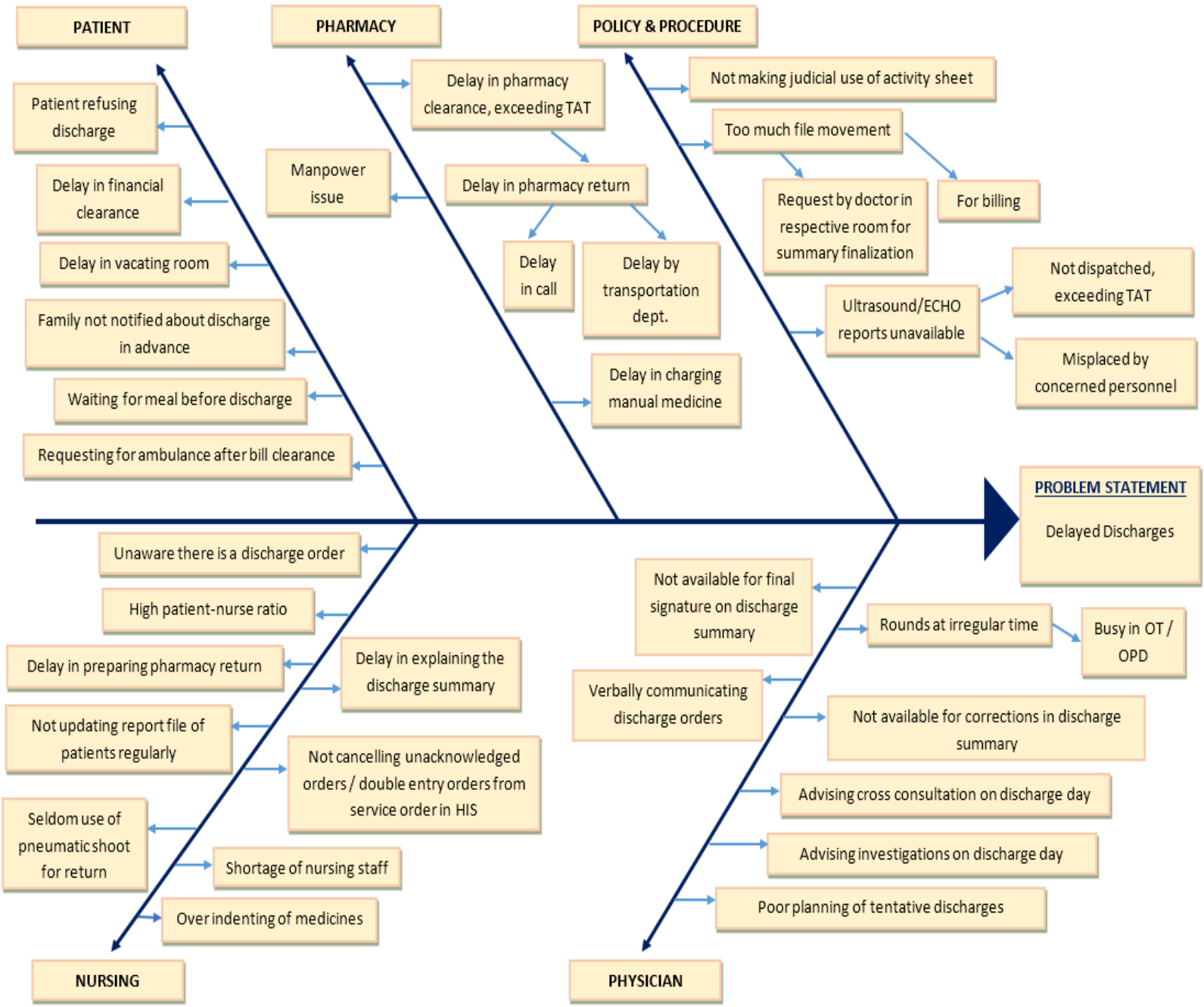


Figure1: Discharge process flow chart

DISCHARGE PROCESS FLOW CHART



RESULT AND DISCUSSION

Figure2: Cause and effect diagram for delayed discharges

The Ishikawa diagram for delayed discharges helped in identifying, sorting and displaying possible causes. All these various factors have significantly influenced the outcome and display the root causes that are causing delay in discharges.

Figure3: Pie chart depicting different payor types

The above pie chart simply shows how the complete sample size is divided in cash, credit and TPA patients.

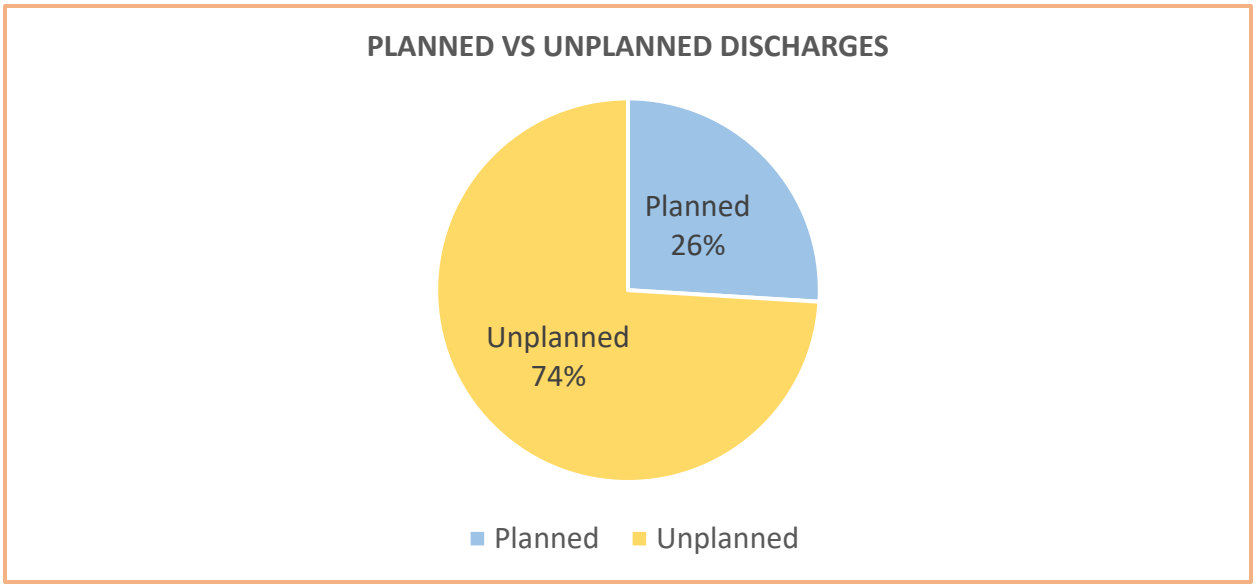
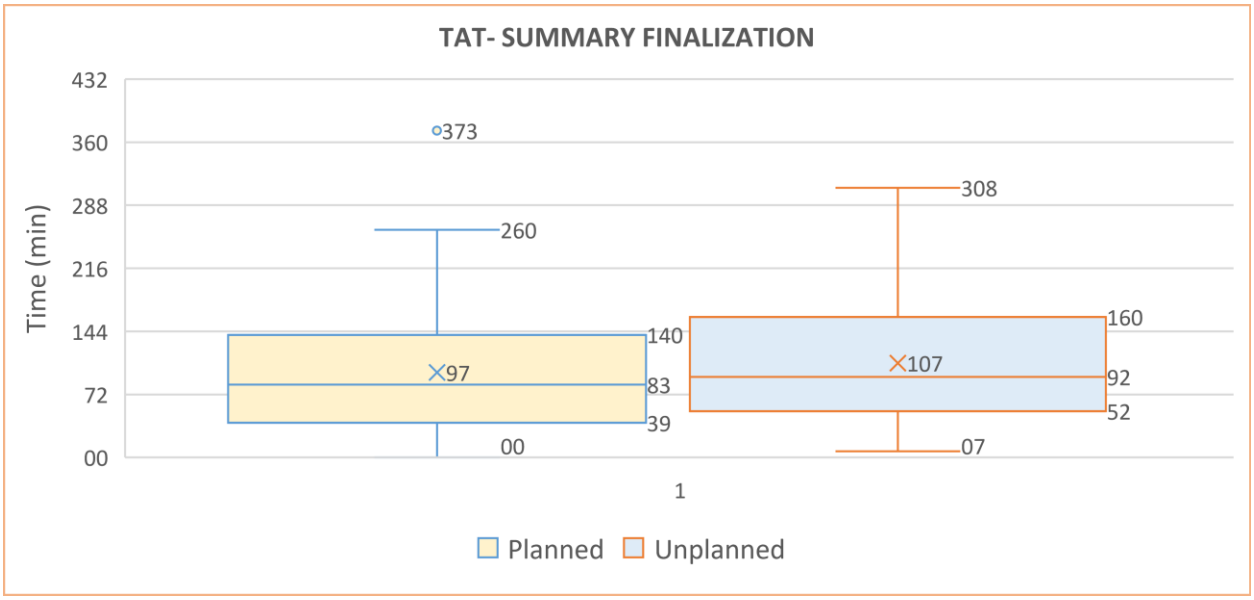


Figure4: Pie chart depicting type of discharges

The percentage of unplanned discharges is remarkably higher than the planned discharges. Planning discharges a day before is a prerequisite and should be in practice as it'll not only hasten up the discharge process on day of discharge, but will also improve patient satisfaction score. Current data not only delineates poor planning, but also emphasizes on the dire need of strong policy / procedure for discharges.

Figure5: Box and Whisker Plot, showing comparison of TAT for summary finalization between planned & unplanned discharges



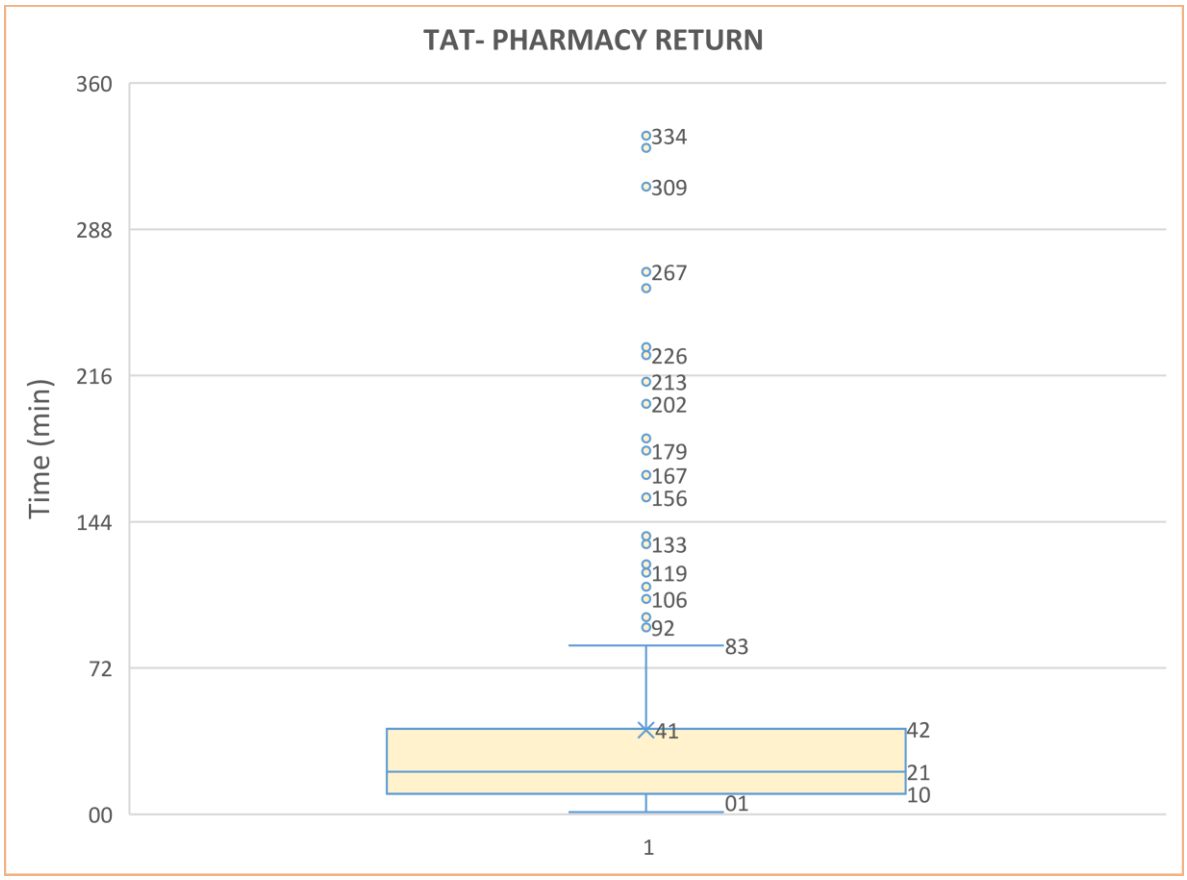
The average time taken for summary finalization was 97 mins in planned discharges and 107 mins in unplanned discharges, depicting insignificant difference.

Fifty percent of summaries were finalized in 39 mins to 140 mins in cases where the discharge was a planned discharge and the maximum time taken for summary finalization was 260 mins.An outlier may indicate a bad data or may indicate something scientifically interesting, in planned discharges 373 mins is an outlier, being a planned discharge, the discharge summary was not finalized which further increased the TAT for complete discharge process of credit patient and henceforth reducing the patient satisfaction score.

Also, fifty percent of summaries were finalized 52 mins to 160 mins in cases where the discharge was an unplanned discharge and the maximum time taken for summary finalization was 308 mins.

26% of the discharges were planned discharges and still the discharge summaries were delayed. As per NABH standard discharge summary preparation should not take more than 30 mins, however in both cases the average TAT was exceeding the limit.

Figure6: Box and Whisker Plot, depicting TAT for pharmacy return



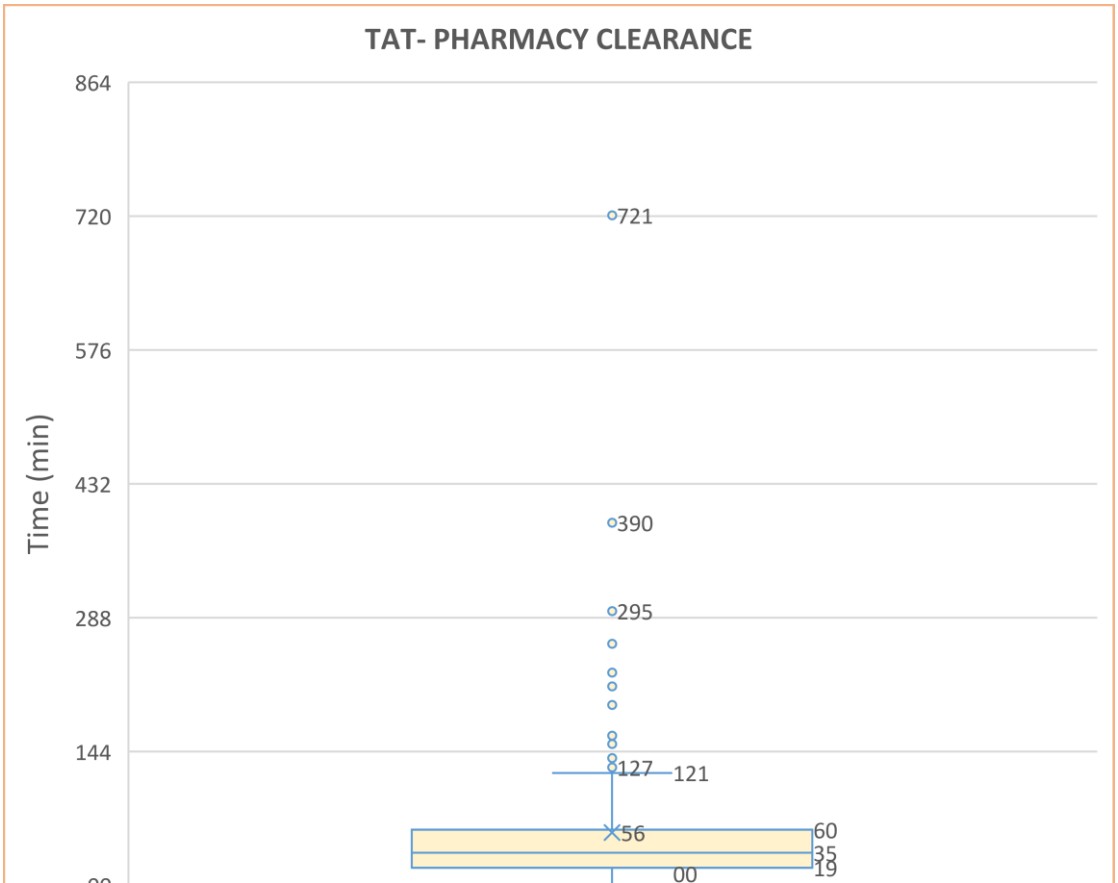
TAT for Pharmacy return is the time taken from pharmacy return ready time to return pick up time by transportation department.

The median time taken for pharmacy return was 21 mins. The minimum and maximum time taken for pharmacy return was 01 and 83 mins respectively. Fifty percent of returns were sent in 10 mins to 42 mins. The calculated average time was 41 mins. All the values above 83 mins are outliers (13.6 %).

As per NABH standard return of unutilized medicines to pharmacy should not take more than 30 mins. However only in 63 % cases the pharmacy returns were meeting the standards laid by NABH, while rest 37 % were exceeding the limit.

Out of 61 planned cases, in 20 cases the limit exceeded the standard limit. This crucial observation will help in further analysis and be a part of recommendation section. Also, there is dire need of robust plan to reduce MWH's, make use of pneumatic shoot and also notably reduce the TAT for pharmacy return.

Figure7: Box and Whisker Plot, depicting TAT for pharmacy clearance



TAT for Pharmacy Clearance is the time taken for pharmacy clearance.The median time taken for pharmacy clearance was 35 mins. The minimum and maximum time taken for pharmacy clearance was 01 and 121 mins respectively. Fifty percent of clearance was done in 19 mins to 60 mins. The calculated average time i.e. 56 mins was substantially high when compared to the guidelines laid by hospital i.e. of 30 mins. All the values above 121 mins are outliers (9.8 %).

In 55.7 % cases the time taken for pharmacy clearance was more than 30 mins, exceeding the limits / standards set by hospital.

Figure8: Box and Whisker Plot, depicting TAT for initiation of bill preparation

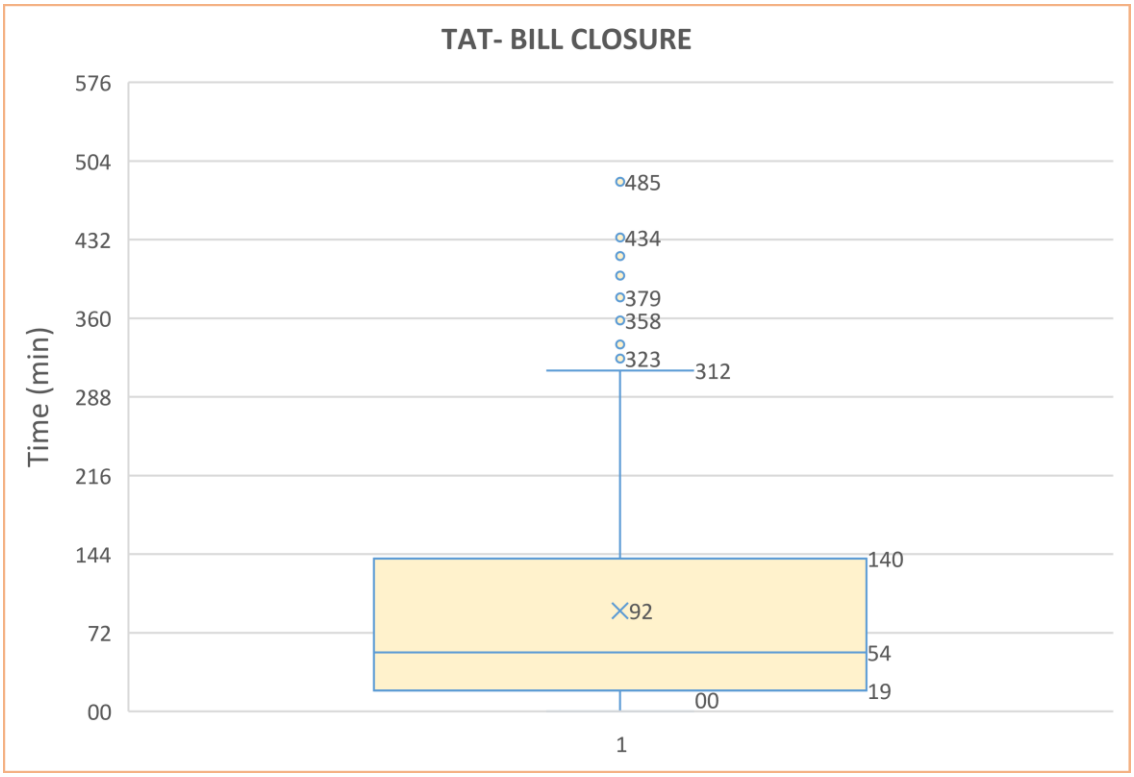
TAT for Initiation of Bill Preparation is the time taken from when the file is sent for billing via GDA to file receiving time by billing department. Once the file is received by billing executive then the process for preparation of final bill starts.

In this the median time taken to start the process was 21 mins. The minimum and maximum time taken was 01 and 84 mins respectively. Fifty percent of initiations started in 09 mins to 40 mins. Also, the average time taken for initiation was 29 mins.

All values above 84 mins were outliers (5.5 %). Though every process for bill preparation is already there is HIS, still there is lot of file movement and a halt on file movement will drastically reduce the bill initiation time. The GDA collects file of all discharge patients from different wards after getting an intimation via call. Collecting and submitting files takes an average of 29 mins and then returning the same back on floor takes another 20-30 mins. There is dire need of robust plan to reduce MWH's and also notably reduce the TAT for complete process.

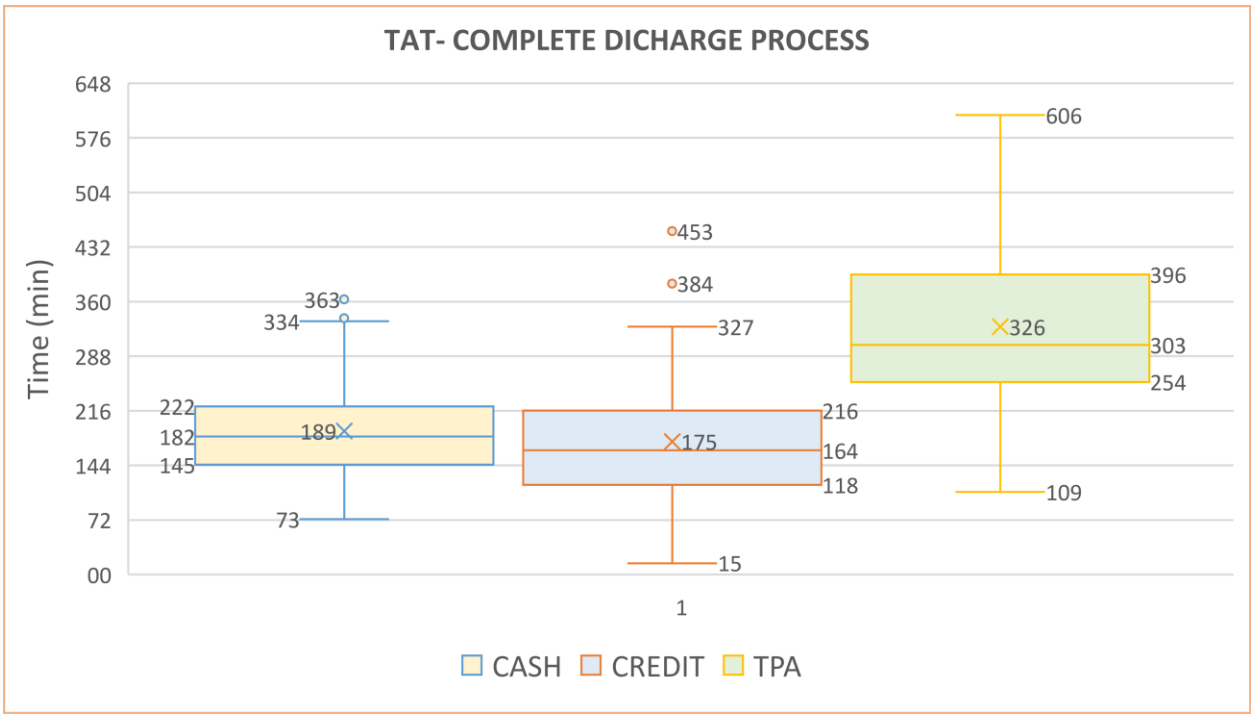
As per set standard of NABH, bill preparation should not take more than 30 mins, however Venkateshwar is doing much better and taking an average of just 15 mins in preparing the patient's bill. The only time they are consuming is in just initiating the process of bill preparation which they can eliminate by making process smooth and cumbersome.

Figure9: Box and Whisker Plot, depicting TAT for bill closure



TAT for Bill Closure is the time taken by the patient / attendant for settlement of final bill. The median time taken for bill closure was 54 mins. The minimum and maximum time taken for bill closure was 00 and 312 mins respectively. Fifty percent of bills were closed in 19 mins to 140 mins. Also, the mean time taken for bill closure was 92 mins which was much higher than standard of NABH i.e. 30 mins.In 65.1 % cases the results were exceeding the limit of 30 mins.

Figure10: Box and Whisker Plot, showing comparison of TAT for complete discharge process of cash, credit & TPA patients



The above box and whisker plot compare the TAT of cash, credit and TPA patients. In 80.5 % of cases the TAT for cash patient and in 75.5 % of cases the TAT for credit was much higher than standard set by Venkateshwar hospital i.e. 120 mins, also TAT for 52.5 % of TPA patients was much higher than set standard by Venkateshwar hospital i.e. 300mins.

NABH has set a standard of 180 mins, so when compared, the TAT is exceeding in 52.2 % of cash patients, 41.1 % of credit patients and 94.8 % of TPA patients.

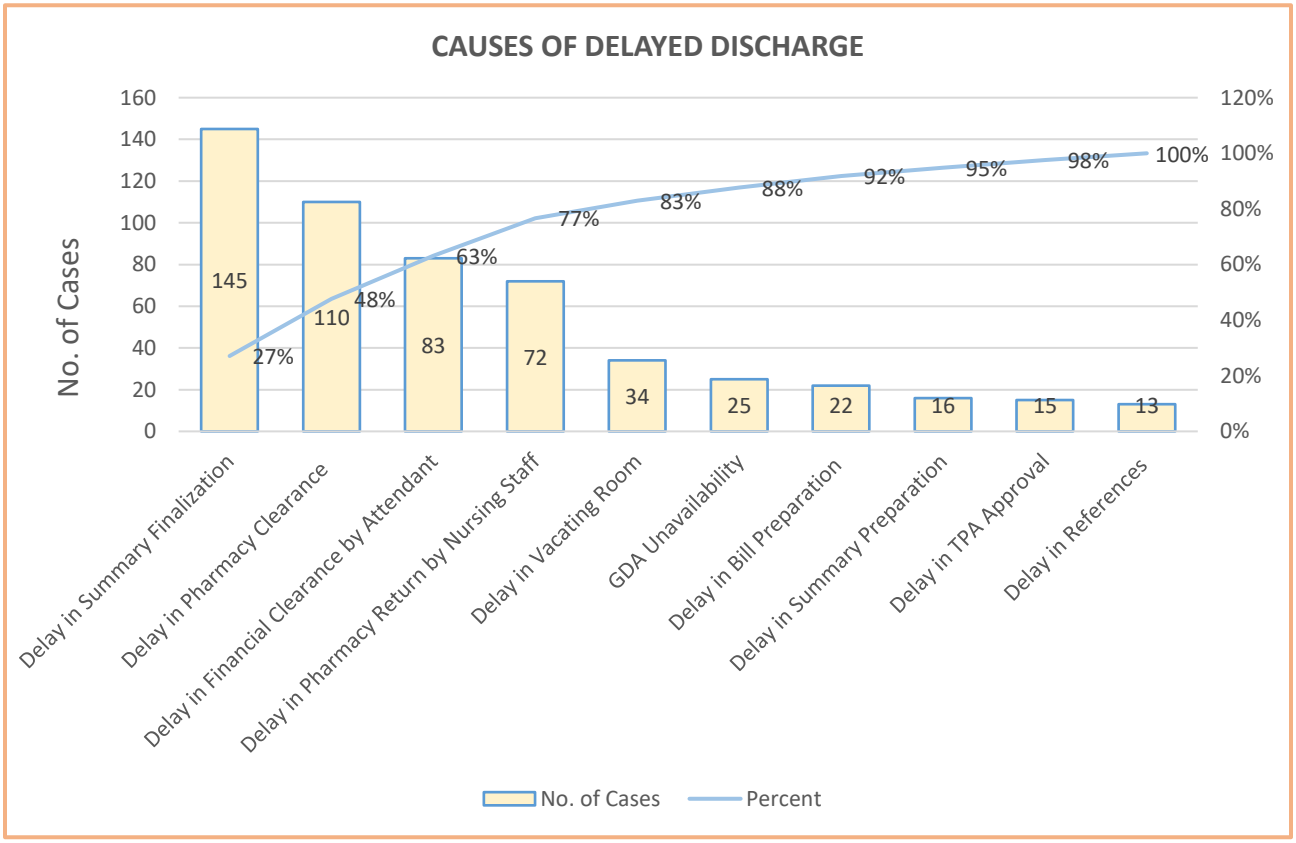


Figure11: Pareto Chart showing the data obtained from auditing various steps in discharge process

After analysing the collected data, a pareto chart was drawn to highlight the major issues / causes for delay in discharge process. The rule behind the Pareto chart is that almost in every case, 80% of the total problems incurred are caused by 20% of the problems. Therefore by concenterating

on the major problem first, one can eliminate majority of problems. The few problems that occur most often result in majority of defects. Here, the few problems that have caused majority of defects are; delay in summary finalization by doctor, delay in pahrmacy return, delay in financial clearance by attendant and delay in pharmacy return by nursing and focussing on these will drastically improve the TAT for discharge process, also once several of the big hitters are cured then some of the smaller problems can be eliminated at the same time.

CONCLUSION

The study was able to map the whole process of discharge and identify the gaps that caused delay in achieving TAT for discharge process. Root causes for delayed discharges were identified via Ishikawa diagramand alsoit was clearly evident that delay in predictor variables caused further delay in the complete discharge process.

The percentage of unplanned discharges was remarkedly higher than the planned discharges. Poor planning of discharges not only increases burden on all departments involved in discharge process, but also increases the TAT for complete discharge process.Percentage of planned discharges is also affected by cancellation of the same on the day of discharge. Cancellation of planned discharges is either because patient is not willing to take discharge or the consultant feels that he / she is still medically unfit.Planning discharges a day before is a prerequisite and should be in practice as it'll not only hasten up the discharge process on day of discharge, but will also improve patient satisfaction score.

The average time taken for summary finalization was 97 mins in planned discharges and 107 mins in unplanned discharges, depicting insignificant difference. As per NABH standard discharge summary preparation should not take more than 30 mins, however in both cases the average TAT was exceeding the limit.There is dire need for strict procedures and protocols so that at least the organization is able to reduce the TAT for summary finalization of planned discharges significantly and then may be give more time in finalization of summary of unplanned discharges. The TAT is significantly high not only because the consultants are unavailable, but in few cases also because there is lot of file movement. For summary finalization files are either sent to doctor's chamber or are sent to billing department for bill preparation. In case one, GDA / transportation personnel are unavailable leading to delay in sending file to consultant's chamber

and in case two, if the file is in billing department then consultant cannot finalize the summary without referring the case file. So, in order to reduce TAT,there should be no file movement. Consultants may finalize summary during rounds and billing department may finalize bill by making use of billing activity sheet / via HIS.

As per NABH standard return of unutilized medicines to pharmacy should not take more than 30 mins. However only in 63 % cases the pharmacy returns were meeting the standards laid by NABH, while rest 37 % were exceeding the limit. First the preparation of pharmacy return is time consuming as nursing is busy with other patients, once prepared then pick up by transportations personnel takes an average time of 41 mins. This 41 mins is just the pick-up time, dropping the bag in pharmacy adds another 20-30 mins and henceforth increasing the average time to approximately 1 hour. Out of 61 planned cases, in 20 cases the limit exceeded the standard limit. Now for planned discharges the team can save time by preparing and sending the returns a night before, second it is very important for nursing staff to indent all medications smartly and avoid excess indenting, so that they can send the same via pneumatic shoot, reduce overall TAT and also manage to save MWH's of transportation personnel and ultimately save cost.

The TAT for pharmacy clearance was also exceeding the limits / standards set by hospital i.e. 30 mins. In 55.7 % cases the time taken for pharmacy clearance was more than 30 mins. They are preoccupied with lot of work. There is need of streamlining the procedure and accepting returns at night might ease the process in day or they may allot a time slot in which they will accept pharmacy returns and give clearance.

The average TAT for Initiation of Bill Preparation was 29 mins. Collecting and submitting files takes an average of 29 mins and then returning the same back on floor takes another 20-30 mins.

There is lot of file movement. Billing department should make sure that all entries are made online and or activity sheets are filled correctly. If this will be implemented thoroughly then billing department will be able to save these 29 mins. Bill preparation is anyway taking an average of 15 mins and Venkateshwar Hospital is doing great in meeting the standard of NABH for bill preparation i.e. of 30 mins. The organization can significantly reduce TAT by eliminating the step of file movement and will also be able to save cost by reducing MWH's in moving files from wards to billing department.

The average TAT for bill closure was 92 mins, as per NABH the standard limit is 30 mins and in 65.1 % cases the results were exceeding the limit. In most of the cases it was exceeding the limit, either because it took too long in receiving TPA approval, or the patient's attendant was unavailable for making payment, or in few cases out of personal interest the patient keeps waiting for meal and attendant is missing at the time of financial clearance, or in few cases the final bill is more than the amount estimated at the time or admission.

The overall TAT for complete discharge is impacted because of all above predictor variables i.e. TAT at different stages of discharge process.

In 80.5 % of cases the TAT for cash patient and in 75.5 % of cases the TAT for credit was much higher than standard set by Venkateshwar hospital i.e. 120 mins, also TAT for 52.5 % of TPA patients was much higher than set standard by Venkateshwar hospital i.e. 300mins.

The data obtained after auditing various seps in discharge process clearly depicted that few problems that occured most often resulted in majority of defects. Here, the few problems thatcaused majority of defects were; delay in summary finalization by doctor, delay in pahrmacy return, delay in financial clearance by attendant and delay in pharmacy return by nursing and

focussing on these will drastically improve the TAT for discharge process, also once these problems are controlled then the orgnisation may focus on other issues and eliminate them.

RECOMMENDATIONS

Discharge process needs to be efficient, practical and free from any interruptions and distractions. This time and motion study helped in identifying the various reasons for delay and strongly needs to implement certain changes in order to improve the overall TAT.

Suggestions to overcome bottlenecks in discharge process are as follows.

ON DAY BEFORE DISCHARGE

1. Planning	• Inform planned discharges a day prior • Inform confirmed discharges • Order all final tests a day prior
2. Reports	• Collect all test results a day prior • Patient's report file to be prepared on Date of Admission (DOA) and to be updated by nursing everyday / a night before discharge • All double / unacknowledged entries to be checked / cancelled in service order a day prior and not on Date of Discharge (DOD)
3. Pharmacy return	• Pharmacy returns to be completed a night before • Proper indenting to be done so that there is no return or if any then should be minimal so that same can be sent via pneumatic shoot
4. Cross consultation	• If any then to be ordered a day prior
5. Discharge summary	• For planned discharges to be prepared by MT and finalized by consultant so that there is no delay in process on day of discharge
6. Patient counselling	• Complete counselling for patient and attendant before 5:30 pm • Discharge lounge orientation
7. Billing	• Interim bill to be shared with patient a day prior • Activity sheet to be sent instead of complete file

Doctor Nurses Floor Manager Billing / TPA

Table 1: Suggestions to overcome the bottlenecks on the day before discharge

ON DAY OF DISCHARGE

1. Planning	• Confirm planned discharges by 10 am
2. Reports	
3. Pharmacy return	
4. Cross consultation	
5. Discharge summary	• Explain discharge summary to patient as soon as icon appears for bill cleared. TAT increases if nursing waits for clearance slip
6. Patient counselling	• Complete counselling for unplanned discharges
7. Billing	• Prepare final bill and handover to attendant • Send info to TPA as soon as possible

Doctor Nurses Floor Manager Billing / TPA

Table 2: Suggestions to overcome the bottlenecks on the day of discharge

APPENDIX – 1

1. Role of your department in discharge process
2. Work flow process
3. What are the policies and procedures stated by hospital
4. What are the various types of issues you face when a patient is planned for discharge
5. How do you manage to resolve them?

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