



BIJU PATNAIK INSTITUTE OF INFORMATION TECHNOLOGY & MANAGEMENT STUDIES (BIITM), BHUBANESWAR

Plot No. F/4, Chandaka Industrial Estate, Infocity, Patia, Bhubaneswar-24

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SUMMER INTERNSHIP PROJECT 2025

REPORT TITLE

**Operational efficiency and inventory management at
Utkal Hospital**

SUBMITTED BY

Ritiv Maharana

MBA Batch: 2024-26

University Regn. No.: 2406258169

Faculty Guide

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Corporate Guide

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Operation Manager
Utkal Hospital,
Bhubaneswar**



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CERTIFICATE OF INTERNAL GUIDE

This is to certify that Mr Ritiv Maharana, bearing university registration no 2406258169 of 2024-26 batch, has completed his summer internship at UTKAL HOSPITAL (UTKAL HEALTH CARE PVT.LTD) from 05-06-2025 to 19-07 -25 under the supervision of Ms. Smita Adhikari (CORPORATE GUIDE) and has submitted this project report under my guidance in partial fulfilment of the requirements for award of the degree of Master of Business Administration at Biju Patnaik Institute of Information Technology and Management Studies, Bhubaneswar. To the best of my knowledge and belief, this project report has been prepared by the student and has not been submitted to any other institute or university for the award of any degree or diploma.

Date:

Name: Dr. Sasmita Mohapatra

Place: Bhubaneswar

Designation: Assistant Professor (Operations)

Ref No: UHPL/ HR/ L&D/25-26/08/0685

8th August 2025

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. Ritiv Maharana** (Registration No: 2406258169), a student of **Masters of Business Administration(MBA)** of 2024-26 batch from **Biju Patnaik Institute of Information Technology and Management Studies, Bhubaneswar**, has successfully completed his traineeship program from **5th June 2025** till **19th July 2025** in the department of **Operations** at our hospital.

During his traineeship, he has submitted a project report on **“Operational Efficiency and Inventory Management”**.

During his period of traineeship, we have found him to be punctual, hardworking and committed.

We wish him success in all his future endeavors.

for Utkal Healthcare Private Limited.



Sandeep Nayak
GM – Human Resources

UTKAL HEALTHCARE PRIVATE LIMITED

PLOT NO.- C/3, NILADRI VIHAR, CHANDRASEKHARPUR, BHUBANESWAR-751021

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DECLARATION

I, Mr Ritiv Maharana bearing university registration no 2406258169 (2024-26 batch), hereby declare that the project report titled Operational Efficiency and Inventory Management is based on my internship at Utkal Hospital, Bhubaneswar, during the period 05-06-2025 to 19-07 -25 and is an original work done by me under the supervision of Ms Smita Adhikari (Corporate Guide) and Ms Prof. Sasmita Mohapatra (Internal Guide). This report is being submitted to Biju Patnaik Institute of Information Technology and Management Studies, Bhubaneswar, affiliated to Biju Patnaik University of Technology, Odisha, in partial fulfilment of the requirements for the award of the degree of Master of Business Administration. This project report has not been submitted to any other institute/university for the award of any degree or diploma.

Date:

Signature:

Place:

Executive summary

My internship at Utkal Hospital, a renowned multi-specialty healthcare institution in Bhubaneswar, provided an enriching experience in a real-time hospital environment. Utkal Hospital is NABH-accredited and houses more than 450 beds, including approximately 150 ICU beds. It is equipped with cutting-edge medical infrastructure such as modular operation theatres, advanced diagnostic labs, PET-CT, nuclear medicine, linear accelerators for cancer therapy, dialysis units, and Cath labs.

During my internship, I had the opportunity to rotate through various departments such as OPD, HDU, Pharmacy, Biomedical Waste, Emergency, Operations. In each of these units, I observed and participated in patient care activities like vitals monitoring, charting, patient movement, documentation, and attending ward rounds with consultants and nurses.

This internship helped me grow both professionally and personally. I improved my clinical observation, time management, teamwork, and communication skills. I also developed a stronger appreciation for healthcare ethics, empathy toward patients, and the importance of accurate documentation. The experience at Utkal Hospital has strengthened my decision to pursue a healthcare-related career and provided a practical understanding of hospital operations and patient care that textbooks alone cannot offer.

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CHAPTER-1

**Introduction, Scope, Objectives, Methodology,
Limitations.**

INTRODUCTION

The healthcare industry is a vital pillar of national development, as it directly impacts the well-being, productivity, and longevity of people. Globally, the sector was valued at around ₹872.7 lakh crore in 2023, representing nearly 10% of global GDP. It continues to grow steadily, driven by technological innovations, aging populations, and rising health awareness.

In India, healthcare is among the fastest-growing sectors, projected to reach approximately ₹55.6 lakh crore by 2030, up from about ₹32.4 lakh crore in 2022, reflecting a robust compound annual growth rate (CAGR) of nearly 22%. This rapid expansion is fueled by several factors, including the rising demand for healthcare services from a population of over 1.4 billion, the increasing burden of lifestyle-related diseases, and supportive government initiatives such as Ayushman Bharat and the Digital Health Mission.

However, challenges such as inadequate rural infrastructure, high out-of-pocket expenses, and a shortage of trained professionals—including doctors, nurses, and operations managers continue to affect the accessibility and quality of care. The doctor-to-patient ratio remains below the WHO-recommended 1:1000, particularly in rural areas

Relevance to Utkal Hospital, Bhubaneswar

Utkal Hospital is the largest stand-alone private sector hospitals in Odisha. We have a capacity of 450 beds with dedicated 150 critical care beds, 10 modular operation theatres and specialty-specific dedicated OPD blocks. The facility is equipped with the most modern medical diagnostic & therapeutic equipment. UTKAL is the 1st hospital to introduce PET-CT & Nuclear Medicine facility in Odisha.

UTKAL Hospital Cancer Institute is one of the few centres in Odisha, which provides comprehensive Cancer Care with organ specific specialist teams in holistic manner.

UTKAL Hospital is accredited by National Accreditation Board for Hospitals and Healthcare Providers, and National Accreditation Board for Laboratories and Calibration, for its processes and high quality patient care.

SCOPE OF THE STUDY

- **Understanding Core Hospital Operations** - Gaining an in-depth understanding of the hospital operations , observing how patient-centric care is supported through administrative functions, logistical coordination, and adherence to standard operating procedures (SOPs).
- **Inventory Optimization And Stock Visibility** - In the pharmacy department, I learned about stock-level maintenance, reorder thresholds, expiry management, and the importance of real-time inventory tracking systems.
- **Interdepartmental Coordination And Communication** - Hospitals function efficiently only through the seamless coordination of clinical and non-clinical departments. This emphasizes the need for timely information sharing, coordination between pharmacy, emergency, nursing, and housekeeping, and the role of operations in reducing communication gaps.
- **Patient Flow And Capacity Management** - Working in the Emergency Department and HDU allowed me to observe how hospitals manage patient flow during peak hours, emergencies, and critical care transfers. It also highlighted the importance of bed availability tracking, fast documentation, and minimal turnaround time for operational efficiency.

OBJECTIVE OF THE STUDY

- **To gain practical experience in hospital administration**, including resource allocation, coordination between departments, and adherence to standard operating procedures (SOPs).
- **To identify operational challenges and explore improvement opportunities** that can enhance service delivery, patient satisfaction, and overall hospital performance.
- **To understand inventory management principles** in a hospital setting, including procurement, stock maintenance, and drug dispensing protocols.

METHODOLOGY

The study has been completed in 3 stages.

STAGE I: Primary and secondary data was used for a total survey of the departments in terms of services provided, Manpower, Physical infrastructure, Equipment's, drugs and Lab services.

STAGE II: Observation and personal interview were used to map the various processes of the hospital and to know the functioning of each department.

STAGE III: Extensive analysis based on data collected from stage I and Stage II. Based on this Gap analysis was prepared reflecting the processes, Infrastructure, Equipment's, Manpower. The report reflects strengths of the department and various gaps observed in the processes and other parameters.

Area of Study: The study was under taken in Utkal hospital, Bhubaneswar, Odisha. Study.

Design: Observational study to analyse the gaps within the facility by using primary and secondary data compared to the NABH standard.

Data Collection: Primary data & secondary data.

Duration of the Study: 5st June 2025 to 21 July 2025.

Limitations

- The hospital's outpatient departments experienced high levels of congestion due to the absence of structured appointment systems and inadequate physical space.
- Delays in patient admission were attributed to limited bed availability, which further constrained timely admission.
- The discharge process was found to be fragmented and time-consuming, involving multiple departments such as billing, pharmacy, nursing, and treating physicians.

CHAPTER-2

Company Profile and Industry Analysis

Company Profile

The healthcare industry is a vast and essential sector that encompasses the prevention, diagnosis, treatment, and management of illness and the preservation of physical and mental well-being. It includes a wide range of services and systems, including hospitals, clinics, pharmaceutical companies, medical device manufacturers, insurance providers, telemedicine platforms, and public health organizations. The industry plays a critical role in enhancing life expectancy, improving quality of life, and driving economic growth.

In developing countries, including India, the healthcare industry is witnessing a shift toward greater privatization, improved infrastructure, and policy-driven initiatives such as Ayushman Bharat. However, challenges remain in terms of affordability, access, quality disparities, and a shortage of skilled professionals. Overall, the healthcare industry is one of the most dynamic and impactful sectors, constantly evolving to meet the changing needs of society.

About Utkal Hospital



Utkal Hospital, located in Chandrasekharpur, Bhubaneswar, is a leading multi-specialty healthcare institution established in 2008 by Utkal Healthcare Pvt. Ltd. with the vision of providing world-class, affordable, and accessible medical care in Odisha. Accredited by NABH

and NABL, the hospital is equipped with 450 beds, including a significant number of critical care units, and offers advanced medical services through a team of over 100 doctors and 700 healthcare professionals. Utkal Hospital is renowned for its centers of excellence in Oncology, Cardiology, Neurosciences, Orthopaedics, Nephrology, Gastroenterology, and Critical Care. It was the first hospital in Odisha to introduce PET-CT and high-dose radionuclide therapy facilities. With state-of-the-art infrastructure including 10 modular operating theatres, a 24/7 intensive care unit, and cutting-edge diagnostic equipment like MRI, CT, Cath Lab, and Linear Accelerator, the hospital is committed to delivering high-quality, patient-centered care. Utkal Hospital is empanelled under CGHS and several corporate and government health schemes. Guided by a mission of clinical excellence and ethical service, the hospital continues to play a pivotal role in strengthening the healthcare landscape of eastern India.

Utkal Hospital is the largest stand-alone private sector hospitals in Odisha. We have a capacity of 450 beds with dedicated 150 critical care beds, 10 modular operation theatres and specialty-specific dedicated OPD blocks. The facility is equipped with the most modern medical diagnostic & therapeutic equipment. UTKAL is the 1st hospital to introduce PET-CT & Nuclear Medicine facility in Odisha.

Our Vision:-

Enrich lives through accessible & world-class quality healthcare.

Our Mission:-

To improve access & quality of care through process based efficient and affordable healthcare delivery.

Our Values:-

Patient first, honesty & integrity, team work quality & excellence of care, innovation.

Objectives:

- To provide high-quality, patient-centered healthcare with state-of-the-art facilities.
- To adopt evidence-based medical practices and modern clinical protocols.
- To design infrastructure focused on patient comfort, safety, and privacy (e.g., single-room layouts, reduced noise).
- To develop as a center of clinical excellence in Odisha.
- To introduce and expand specialty services not previously available in the region.
- To focus on continuous improvement and innovation in healthcare delivery.
- To promote teamwork, integrity, and quality in every aspect of service.
- To strive to become the most trusted and preferred healthcare provider in the region.

Type of Business Entity	Private
Industry	Healthcare
Founded	2006
Key People	Dr Aditya Samal (Chairman) Dr Kalyan Rath (Director) Mr B K Subodh Singh (Chief Executive Officer) Dr Pragyan R Gharai (Managing Director) Dr Ranjan Kumar Mohapatra (Director, Medical Services) Dr Rabindra Kumar Mohapatra (Director) Dr Siddhanta Kumar Kar (Director) Er Subrat Das (Director) Mr Sailendra Narayan Panda (Director)

	Mr Venugopal Puvvada (Director) Mr Arun Khilar (CFO)
Revenue	Approx 35 Crore per Month
Employees	1500

Achievements:

UTKAL Hospital Cancer Institute is one of the few centres in Odisha, which provides comprehensive Cancer Care with organ specific specialist teams in holistic manner. The Hospital offers advanced services for the treatment of heart conditions including Minimal Access Cardiac Bypass Surgery, TAVI, Primary Angioplasty etc.

Spine institute & Trauma care at UTKAL is one of the best and advanced in the region. The Hospital provides a wide spectrum of Super Specialty Services in the field of Neurology , Neurosurgery, Urology,nephrology Gastroenterology and Surgical Gastroenterology, Orthopaedics, Robotic Joint Replacement & Sports Medicine, Cosmetic & Reconstructive Surgery, comprehensive Mother & Child care including advanced , process driven Critical Care services, along with the most advanced Diagnostic and Imaging facilities, provide the necessary backbone for patient care for holistic, comprehensive and contemporary care to patients.

UTKAL Hospital is accredited by National Accreditation Board for Hospitals and Healthcare Providers, and National Accreditation Board for Laboratories and Calibration, for its processes and high-quality patient care.

History:

- Utkal Healthcare Pvt. Ltd a registered Private Limited Company created by some dedicated doctors from Odisha to establish such specialties of medicine which do not exist in the state for the benefit of the people of the state.
- Nuclear Medicine is a newly developed specialty of medicine which is being increasingly used in patient management throughout the world. Up till now there is no Nuclear Medicine facility in Orissa
- Utkal Healthcare Pvt. Ltd. Has therefore undertaken to establish the specialty on priority basis under its unit "Utkal Institute of Medical Science" at Bhubaneswar.
- With the beginning of the new Millennium practice of medicine has under gone a sea change. The emphasis all over the world is now on evidence based medicine in place of experience based medicine.
- In order to practice evidence based medicine we need quantitative parameters of organ functions and documented evidence of effectiveness of administered therapy.
- Whereas imaging modalities like X-ray, Ultrasound, CT and MRI provide excellent anatomical and structural details, these techniques are not suitable for providing quantitative functional parameters and detect events at cellular and molecular levels.
- Nuclear Medicine Procedures are uniquely suitable for following biochemical processes at the molecular level and document such processes either in quantitative terms or as images.
- Increased use of such techniques in the routine practice of medicine will contribute significantly in improving level of patient care. As an emerging powerful nation we should not fall behind other advanced nations in providing modern health care to our people.

Services Offered:-

- **Consultation**: Our expert medical professionals provide personalized consultations to accurately diagnose and manage a wide range of health conditions, ensuring a patient-centered approach at every step.
- **24X7 Emergency**: Our fully equipped emergency department operates around the clock to provide immediate and life-saving care for critical conditions, ensuring prompt medical attention at any time of day.
- **Physiotherapy**: Our physiotherapy services are tailored to help patients regain mobility, strength, and functionality through customized rehabilitation plans and advanced therapeutic techniques.
- **Chemotherapy**: We offer advanced chemotherapy services, combining cutting-edge treatments with compassionate care to support cancer patients throughout their journey.
- **OT**: Our advanced operation theatres are equipped with state-of-the-art technology to perform a wide range of surgical procedures with precision and safety.
- **ICU & NICU**: Our intensive care units, including specialized NICUs, provide round-the-clock critical care for adults and neonates, supported by advanced monitoring and life-support systems.
- **Radiology & Imaging**: We provide precise diagnostic imaging services, including X-rays, MRIs, and CT scans, using the latest technology for accurate results.
- **Radiotherapy**: Our radiotherapy services employ advanced techniques to deliver precise and effective treatment for various types of cancer.
- **Pharmacy**: Our 24/7 pharmacy ensures the availability of medicines and medical supplies, meeting patient needs efficiently and reliably.
- **Ambulance**: Our well-equipped ambulances are available 24/7 for emergency patient transport, ensuring timely access to medical care.

- **Laboratory**: Our laboratory services offer a comprehensive range of diagnostic tests, ensuring accurate results to support effective treatment plans.
- **Nuclear Medicine**: Our nuclear medicine department provides advanced diagnostic and therapeutic services using cutting-edge radiopharmaceutical technology to ensure precise and effective care.

Specialities:-

Anesthesiology	Emergency Medicine	Liver Transplant
Bone Marrow Transplant	Endocrinology	Medical Oncology
Cardiothoracic and Vascular Surgery	Gastroenterology	Microbiology
Cardiac Science	General & Laparoscopic Surgery	Nephrology
Critical Care	HPG & GI Surgery	Neurology
Dentistry	Hematology	Neurosurgery
Dermatology	Internal Medicine	Nuclear Medicine
ENT, Head & Neck Surgery	Kidney Transplant	Obstetrics & Gynaecology
Ophthalmology	Orthopaedics	Pathology

Physiotherapy	Plastic & Cosmetic Surgery	Psychiatry
Pulmonology	Radiation Oncology	Radiology
Surgical Oncology	Urology	

INDUSTRY ANALYSIS

Number Of Players:

The private healthcare sector in Bhubaneswar is moderately concentrated, with 6–8 major multispecialty hospitals like Apollo, CARE, AMRI, SUM Ultimate, KIMS, and Utkal Hospital. Additionally, around 20 smaller and mid-sized hospitals operate in the region. Government institutions like AIIMS Bhubaneswar and SCB Cuttack also play a key role, especially in critical and subsidized care.

Total Market Size:

Odisha's healthcare market is valued at ₹21,812.5–₹30,537.5 crore, with Bhubaneswar's private hospitals contributing ₹1,200–1,800 crore annually. Utkal Hospital, a mid-sized facility with 450 beds, generates around ₹100–150 crore yearly. Growing demand is driven by urbanization, rising health awareness, limited public infrastructure, and increased access through insurance and schemes like Ayushman Bharat.

Nature Of Competition:

Bhubaneswar's healthcare sector is oligopolistic, with a few major hospitals dominating the market. High entry barriers include capital, technology, and regulations. Hospitals compete

through accreditation, quality care, advanced equipment, and patient experience. Utkal Hospital stands out with tech adoption like Salesforce Health Cloud but faces strong competition from bigger players like Apollo and KIMS

Barriers to Entry:

Entering Bhubaneswar's healthcare market is challenging due to high capital needs, strict regulations, and the time required to build trust. Utkal Hospital has overcome these barriers with NABH accreditation, strong critical care, and a solid reputation. New entrants would need major investment to match its infrastructure and services.

Emerging Trends:

Bhubaneswar's healthcare is shifting toward patient-centric care, with growing demand for digital services, transparency, and convenience. Medical tourism from rural areas and nearby states is rising, along with focus on preventive and day-care procedures. Utkal Hospital is aligning with these trends through digital tools, multispecialty services, and partnerships like RED Health for emergency care.

Innovation in Technology:

Utkal Hospital leads in digital transformation in Eastern India, being the first to adopt Salesforce Health Cloud and Agentforce CRM. Integrated with HIMS, EMR, and AI call center tools, these systems enhance patient care and efficiency. Advanced tech like PET-CT, modular OTs, AI chatbots, and predictive analytics further boost diagnostics, engagement, and resource planning.

MICHAEL PORTER'S FIVE FORCE ANALYSIS

1. Threat of New Entrants – Moderate to High

Tertiary care hospitals like Utkal face a moderate to high threat of new entrants due to growing healthcare demand and supportive schemes like PMJAY and Ayushman Bharat. While high capital, strict regulations, and skilled staff requirements are entry barriers, building trust and reputation takes time—giving established hospitals like Utkal a competitive advantage.

2. Bargaining Power of Suppliers – Low to Moderate

In healthcare, suppliers include pharma firms and equipment providers. Utkal Hospital's scale allows better negotiation, but supplier power rises for specialized equipment. Overall, supplier power is moderate and can be reduced through bulk buying and vendor diversification.

3. Bargaining Power of Buyers (Patients) – Moderate to High

With many hospital options in Bhubaneswar, patients have high bargaining power. Factors like cost, doctor expertise, and insurance make switching easy. Utkal Hospital must focus on value-based care and patient satisfaction to stay competitive.

4. Threat of Substitutes – Moderate

Substitutes like home care, telemedicine, and government hospitals pose a moderate threat. For minor issues, patients may prefer cheaper, quicker options, but for complex care, hospitals like Utkal remain essential.

5. Rivalry Among Existing Competitors – High

Bhubaneswar's healthcare market is highly competitive, with rivals like SUM, KIMS, and AIIMS offering similar services. Price wars, tech upgrades, and government scheme tie-ups

intensify rivalry. Utkal must focus on service quality, patient loyalty, and strategic partnerships to stay ahead.

SWOC ANALYSIS (Strengths, Weaknesses ,Opportunities , Challenges)

SWOC Analysis is a strategic planning tool used to evaluate an organization. It helps in identifying internal factors (Strengths & Weaknesses) and external factors (Opportunities & Challenges) that influence an organization's growth, performance, and strategic decisions.

Purpose of SWOC Analysis:

- To understand the current position of the organization.
- To identify areas of improvement and growth potential.
- To prepare for external risks and market changes.
- To guide in decision-making and strategy development.

S – Strengths

- Multi-specialty Services with advanced medical infrastructure.
- Experienced medical professionals and strong clinical expertise.
- Reputation and trust among local patients.
- Empanelment with schemes like PMJAY and Ayushman Bharat.
- Strategic location in Bhubaneswar with good accessibility.

W – Weaknesses

- Limited brand presence compared to bigger hospitals like SUM or KIMS.
- Dependence on local market; lesser inflow of outstation or international patients.
- Lower digital outreach (telemedicine, online branding).
- Fewer super-specialty departments or research facilities.

O – Opportunities

- Growing healthcare demand in Odisha and eastern India.
- Medical tourism potential with better marketing.
- Adoption of AI and telehealth for remote diagnostics.
- Strategic tie-ups with insurance companies and corporates.
- Expansion into tier-2 and tier-3 cities.

C – Challenges

- Rising competition from major private and public hospitals.
- Retention of skilled doctors due to high demand in metro cities.
- Cost pressures from government-regulated schemes.
- Technological advancements demanding constant upgrades.
- Changing patient expectations for faster, value-based care.

CHAPTER-3

Competitor Analysis

Competitor analysis is the process of identifying and evaluating other healthcare facilities (private hospitals, nursing homes, diagnostic centres, or even government hospitals) that offer similar services to understand their strengths, weaknesses, market position, pricing strategies, service quality, and patient satisfaction levels. It helps a hospital make strategic decisions to improve its services, attract more patients, and stay ahead in the healthcare market. A competitor analysis offers several benefits, including:

- Identification of Competitors
- Service Offerings
- Pricing and Packages
- Infrastructure and Technology
- Patient Experience
- Marketing and Branding
- Accreditations and Certifications

The main competitors of Utkal Hospitals are:

- Kalinga Hospital
- Care Hospital
- AMRI Hospital
- Apollo Hospital
- AIMS Hospital
- SUM Hospital

Key competitor analysis

1.Kalinga Hospital

Kalinga Hospital is one of the oldest and most trusted private hospitals in Odisha, with over 350 beds and a legacy of consistent

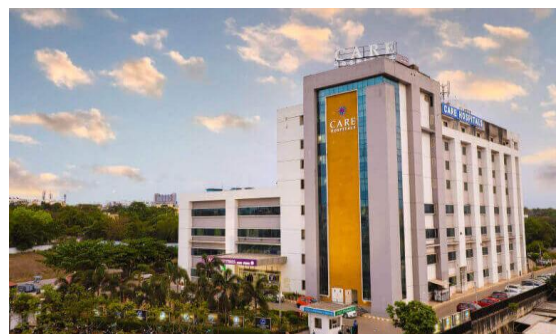


healthcare delivery since the 1990s. It holds a strong reputation for its reliability, affordable care, and well-established departments in cardiology, orthopedics, neurology, nephrology, and general surgery.

However, Utkal Hospital leads in technological advancement, clinical innovation, and digital transformation, while Kalinga Hospital maintains its competitive edge through affordability, trust, and decades-long reliability in the healthcare market. Both hospitals play vital yet differentiated roles in serving diverse patient populations in Odisha.

2.Care Hospital

CARE Hospitals, part of the nationally recognized CARE network, offers strong brand value, standardized treatment protocols, and a reputation for excellence in cardiology,



nephrology, critical care, and gastroenterology. Its Bhubaneswar branch is known for its clinical efficiency, patient outcomes, and affordability. The hospital benefits from being part of a larger

healthcare group with access to shared knowledge, research, and medical best practices across multiple cities

However, Utkal Hospital leads with its focus on innovation, luxury healthcare, and specialty-driven infrastructure, while CARE Hospitals leverages its national brand, affordability, and clinical credibility to deliver high-quality care. Both institutions serve vital yet distinct roles in meeting the diverse healthcare needs of the city and region.

3. Manipal hospital

AMRI Hospital Bhubaneswar, part of the larger AMRI Group based in Kolkata, brings with it the strength of a reputed hospital network and consistent clinical protocols. Known for its



specialties in cardiology, neurology, oncology, nephrology, and critical care, AMRI has a strong reputation for delivering reliable tertiary care and attracting patients from across Odisha and neighboring states.

However, Utkal Hospital leads in innovation, infrastructure, and premium care with a strong local identity, while AMRI Hospital leverages the power of an established hospital chain, strong brand equity, and cross-regional patient inflow. Both hospitals cater to overlapping yet distinct patient segments, playing crucial roles in elevating Odisha's private healthcare standards.

4. Apollo Hospital

Apollo Hospital, on the other hand, is part of India's largest and most trusted private healthcare network. Its Bhubaneswar branch benefits from the Apollo



brand's national recognition, standardized treatment protocols, and vast experience in complex and high-end procedures across specialties like oncology, cardiology, neurosurgery, orthopedics, and organ transplantation. Apollo's competitive edge lies in its deep clinical expertise, network-driven knowledge sharing, cutting-edge robotic and laparoscopic surgeries, and trusted reputation across the country.

However, Utkal Hospital distinguishes itself with local leadership in technology, personalized care, and innovation, while Apollo Hospital leverages its national brand power, consistency, and clinical depth to serve a wide range of patients. Together, they represent the evolving landscape of private healthcare in Odisha, offering different strengths to meet diverse patient needs.

5. AIMS Hospital

AIIMS Bhubaneswar, on the other hand, is a government-run premier medical institute under the Ministry of Health and Family



welfare, offering both high-quality tertiary care and medical education at highly subsidized rates. Its competitive strength lies in its affordability, academic excellence, and its role as a referral center for complex cases from across Odisha and neighboring states.

However, Utkal Hospital excels in private-sector innovation, digital transformation, and premium patient experience, while AIIMS Bhubaneswar holds a competitive edge in affordability, academic strength, and public service. Both institutions play complementary roles—Utkal serving as a leading private referral hospital and AIIMS fulfilling the government's mission of equitable, accessible, and quality healthcare.

6.SUM Hospital

SUM Hospital (Institute of Medical Sciences & SUM Hospital) is a teaching hospital affiliated with Siksha 'O' Anusandhan University and has a larger bed capacity



of over 1,500 beds. It operates both as a medical college and a multi-specialty hospital, offering a broad spectrum of services ranging from general medicine to super-specialties. SUM Hospital is widely recognized for its affordability, academic excellence, and community outreach

However, Utkal Hospital excels in high-end technology, digital innovation, and specialized private healthcare delivery, whereas SUM Hospital leads in scale, medical education, community impact, and affordability. Both serve different segments effectively, making them complementary rather than direct competitors in many areas.

CHAPTER - 4

Customer Analysis

Customer analysis is essential in a business plan to deeply understand target consumers, their needs, and how they are acquired. It provides insights into customer acquisition time, lead conversion sources, and overall customer behavior. At Utkal Hospital, service reports help extract valuable data to enhance patient care and meet expectations.

The healthcare sector serves a wide range of patients with unique needs, making customer segmentation vital. By grouping patients based on demographics, medical conditions, and preferences, hospitals can offer personalized services, improve satisfaction, and drive better healthcare outcomes and business performance.

Types of Customers in the Hospital Industry:

- **Walk-in Patients**

These are individuals from the local area who visit the hospital for regular consultations, minor ailments, or diagnostic tests. They do not need referrals and form a large part of daily OPD (Outpatient Department) traffic.

- **Emergency and Trauma Patients**

Patients who arrive in urgent situations such as accidents, strokes, or severe health issues. Utkal Hospital provides 24x7 emergency care with ambulance support and critical care units.

- **Corporate Clients**

Companies that tie up with the hospital for employee health services like annual check-ups, wellness programs, or workplace medical emergencies. This also includes pre-employment screening.

- **Insurance and TPA Patients**

Patients who have health insurance and use either cashless or reimbursement options through TPAs (Third Party Administrators). Utkal Hospital is empaneled with various TPAs and health insurers.

- **Government Scheme Patients**

Beneficiaries of public healthcare schemes such as PMJAY – Pradhan Mantri Jan Arogya Yojana and ESIC. These patients receive subsidized or free treatment.

- **Referred Patients**

Patients sent to Utkal Hospital by smaller clinics, doctors, or nursing homes for specialized services like ICU, surgery, or diagnostics not available at the referring facility.

- **Chronic Care Patients**

Patients with long-term health issues like diabetes, kidney disease, heart conditions, etc., who regularly visit the hospital for follow-ups, tests, or ongoing treatments like dialysis.

- **Maternity and Childcare Customers**

Pregnant women and mothers who visit for antenatal care, delivery, neonatal ICU (NICU), and pediatric services including vaccinations and checkups.

- **Senior Citizens**

Older adults who come for age-related care including cardiac, orthopedic, diabetic, and routine wellness services. They often need multi-specialty support.

- **Diagnostic and Preventive Health Customers**

People who visit for routine health check-ups, pathology tests, and imaging services (X-ray, CT, MRI). Many avail of Utkal's preventive health packages.

- **International and NRI Patients**

A small but growing segment of patients from abroad or NRIs who seek cost-effective and quality healthcare when visiting Odisha or India

Providing Exceptional Care: A Focus on Customers

In the hospital sector, understanding and valuing customers is essential for delivering exceptional care. By employing patient-centric approaches, hospitals can enhance customer satisfaction, promote positive health outcomes, and build a strong reputation. Prioritizing customer needs and expectations ensures that hospitals remain at the forefront of healthcare excellence.

The Power of Customer Feedback in the Hospital Sector

Customer feedback is a valuable resource for hospitals. By actively listening to patients' experiences, hospitals can identify areas for improvement and make necessary changes. Regularly collecting and analyzing customer feedback helps hospitals enhance service quality, patient safety, and overall satisfaction.

Measuring Customer Satisfaction in the Hospital Sector

Capturing and measuring customer satisfaction is crucial for hospitals. Patient surveys, feedback forms, and online reviews offer insights into the quality of care provided. By analysing satisfaction metrics, hospitals can identify strengths, address shortcomings, and continuously improve their services to meet customer expectations.

CHAPTER – 5

(Actual work done, findings and analysis)

Actual Work Done

OPD (Out Patient Department)

- Assisted in **patient registration and billing**, learning how patient details are recorded and payments processed.
- Understood the structure and coordination of **outpatient services**, including appointment scheduling and interdepartmental communication.
- Gained insight into **patient flow management**, observing how front desk staff handle appointments, queries, and coordination with doctors.
- Became familiar with **doctors' names, specialties, and schedules**, enabling effective patient guidance and support for smooth consultations.

HDU (High Dependency Unit)

- Assisted in the **patient discharge process**, including final billing, discharge summaries, and departmental coordination for smooth discharge.
- **Verified medical and billing documents** for accuracy and compliance with hospital policies and regulations.
- **Uploaded test reports and patient records** into the hospital software to maintain accurate and updated documentation.
- Gained insight into **systematic management of critical patient data**, ensuring operational efficiency, confidentiality, and clinical support.

Patient Feedback Collection

- Participated in **patient satisfaction rounds**, gathering feedback to support quality improvement efforts.
- Collected **direct feedback from patients and attendants** on service quality and care standards.
- **Documented and communicated patient concerns** to relevant departments for timely resolution.
- Enhanced **communication and interpersonal skills** through real-time interactions with patients, attendants, and staff.

PHARMACY



- **Hospital Pharmacy Process:** During my internship, I observed the medicine requisition process via the ERP system, where nurses raise drug indents, and the In-Patient Pharmacy processes and bills the request. Pharmacy staff pick and verify medicines for accuracy, batch number, and expiry, then pack and deliver them department-wise, ensuring timely and accurate supply to wards.

- **Purchasing And Receiving Process:** During my internship at Utkal Hospital, I observed the medicine procurement process where the Central Pharmacy raises Purchase Orders via the ERP system for low-stock items. Vendors are selected based on price, delivery time, and availability. Upon delivery, medicines are verified for quantity, expiry, and quality before being added to the inventory.

- **Billing Process:** During my internship at Utkal Hospital, I observed that patients are categorized into four billing types:
 1. Cash Patients – Billed at MRP with higher service charges.
 2. Insurance Patients – Covered by private-insurance; billed as per approved package rates with reduced charges. (insurance tie up companies to be added)
 3. PMJAY Patients – Receive treatment at subsidized rates under the government scheme.
 4. Corporate Patients (CGHS) – Billed as per corporate tie-ups; services may be cashless or reimbursed.

- **Implant Billing and Stock Process:** During my internship, I observed that implants at Utkal Hospital are ordered on credit and delivered without upfront payment. Billing is done only after the implant is used in surgery, with prices varying by patient type—higher for cash patients and lower for insurance or PMJAY patients. This flexible system ensures timely availability of implants and requires close coordination between billing, procurement, and OT teams for accurate post-use billing and vendor payment.

- **Storage of Medicines: Cool, Dry, and Fridge Conditions:** Proper storage maintains medicine quality and effectiveness. Based on type, medicines are stored as follows:

Cold Storage (2°C–8°C):

For insulin, vaccines, eye drops, and injectables in medical refrigerators.

Cool Storage (8°C–25°C):

For syrups, tablets, capsules, creams—kept in cool, shaded areas.

Dry Storage:

For moisture-sensitive medicines like effervescent tablets and powdered antibiotics, using airtight containers or blister packs.

➤ Procurement and Delivery Timeline**Medicine Procurement Process**

Once a vendor is selected, medicine orders are placed based on hospital requirements. Delivery usually takes 3–4 days. For emergencies, vendors can supply medicines within 24 hours to ensure uninterrupted patient care.

Chemotherapy Medicines

Chemotherapy drugs are high-cost and sensitive, with a zero-reorder level. They are ordered 2–3 days before use, based on a doctor's prescription. This on-demand approach prevents wastage and ensures the latest batch is administered.

➤ ABC Analysis of Drugs

The pharmacy uses ABC analysis to manage inventory based on drug value and usage:

- A Category: High-value, low-use drugs (e.g., chemotherapy, specialized injectables); tightly monitored.
- B Category: Moderate-value and moderate-use drugs (e.g., antibiotics, antacids, painkillers); reviewed periodically.

- **C Category:** Low-value, high-use items (e.g., common tablets, syrups); ordered in bulk with minimal monitoring.

- **Turnover and Revenue Cycle:** The hospital pharmacy follows a bi-monthly turnover cycle, reviewing stock and sales every 15 days based on actual consumption. This ensures efficient inventory management. The pharmacy generates an average monthly revenue of ₹8–9 crore.
- **Stock Movement Coordination with Doctors:** To reduce expiry-related wastage, the pharmacy coordinates with doctors to utilize slow-moving or near-expiry medicines when clinically appropriate. This approach supports better inventory rotation and reduces financial loss.
- **Substitution Policy for Unavailable Medicines:** If a prescribed medicine is unavailable, the pharmacy provides a substitute with the same active ingredient and dosage, ensuring therapeutic equivalence. Substitution is done only with doctor approval to maintain treatment safety and continuity.
- **Inventory Monitoring Practices:** The pharmacy uses a combination of manual checks and Excel-based digital tracking. Regular inventory reviews help monitor stock levels, expiry dates, and consumption. A Reorder Level (ROL) system ensures timely replenishment, while low-stock alerts prevent shortages and support efficient inventory control.

BIOMEDICAL WASTE (BMW)

Biomedical Waste is generated from medical activities like diagnosis, treatment, or research. It may contain infectious or hazardous materials and must be handled carefully to prevent health risks and environmental damage.

TYPES OF WASTE:

Hospital waste is broadly classified into:

- General Waste: Non-hazardous waste similar to household waste, safely disposed through municipal systems.
 - Dry Waste: Paper, plastic, wrappers, etc.
 - Wet Waste: Food and biodegradable waste
 - Storage: Collected in black bins
- Biomedical Waste: Hazardous waste from medical activities, including used syringes, gloves, blood-soaked materials, tissues, lab waste, and expired medicines. It requires specialized handling to prevent infection and environmental harm.

COLOR CODING OF BIOMEDICAL WASTE SEGREGATION



Biomedical waste is segregated into four color-coded containers to ensure safe disposal:

- **Yellow:** For human anatomical waste and soiled materials (e.g., body parts, placenta, blood-soaked cotton).

- **Red:** For contaminated plastic waste (e.g., IV tubes, catheters, gloves, syringes without needles).
- **Blue:** For glass and metallic items (e.g., broken vials, ampoules, medicine bottles).
- **White (Translucent):** For sharp waste (e.g., needles, blades, scalpels, syringes with fixed needles).

WASTE DISPOSAL PROCESS

At Utkal Hospital, waste is collected twice daily:

- General Waste: Handled by the local Municipality under a formal contract.
- Biomedical Waste: Managed by *Saniclean*, a government-authorized agency responsible for safe collection, transport, and disposal.

Contract & Monitoring:

- Charges for biomedical waste disposal are based on weight, as per the contract with Saniclean.
- Waste is weighed daily using digital scales, and records are maintained for compliance and cost tracking.

Compliance & Safety:

- All disposal follows government regulations with strict segregation, color-coded bins, and proper labeling to ensure safe handling and environmental safety.

LAUNDRY PROCESS

The laundry department ensures hygienic cleaning of linen (bedsheets, gowns, uniforms, etc.) to support infection control.

Process Overview:

- Collection: Soiled linen collected in color-coded bags from wards, ICUs, and OTs.
- Sorting: Separated by type and contamination; damaged items removed.

- **Washing:** Infected and non-infected linen washed separately at 60–90°C with disinfectants.
- **Drying & Ironing:** Done using industrial dryers and steam pressers.
- **Packing & Distribution:** Folded, packed by department, and delivered daily with inventory tracking.

Isolation Linen: Handled separately with PPE, washed at high temperature, and processed independently to prevent cross-contamination.

EMERGENCY DEPARTMENT (ED)

The Emergency Department provides immediate care for critical, trauma, or life-threatening cases. It operates in a high-pressure environment, requiring efficient coordination between clinical and administrative teams.

Emergency Department: Patient Flow

- **Arrival & Triage:** Patients arriving by ambulance are assessed by a technician. If accepted, they are transported to the ED based on condition.
- **Initial Care:** Nursing staff begin evaluation; the emergency doctor takes over after vitals and diagnosis.
- **Admission Process:**
 - **Cash:** Payment made after cost estimate.
 - **Insurance:** Policy verified at Insurance Desk.
 - **Corporate:** Requires referral/authorization from employer.
 - **Government Scheme:** Approval and documentation done at Govt. Desk.
- **Bed Allocation:** After admission, patients are assigned a bed and safely transferred.

During critical cases, I observed the importance of smooth coordination among doctors, nurses, technicians, and administrative staff.

BED MANAGEMENT PROCESS – OPERATIONS DEPARTMENT



Utkal Hospital has 450 beds across General, Private, Twin Sharing, and Royal Suites.

Process Overview:

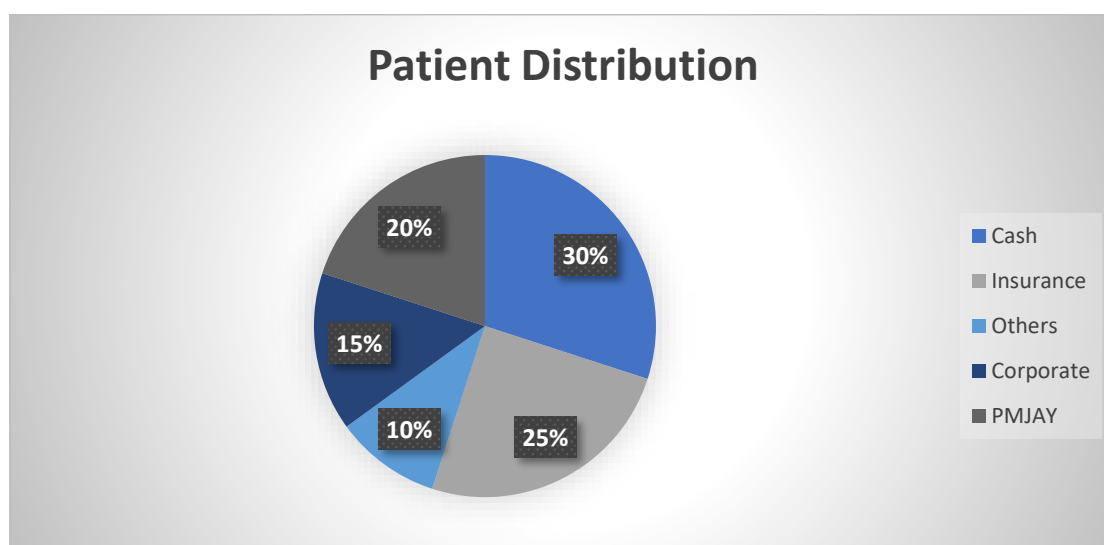
- Discharge lists help forecast bed availability.
- Beds are cleaned and marked “ready” before allotment.
- ERP system ensures real-time, category-based bed assignment.

Shiftment Cases:

- Patients are shifted based on condition, eligibility, or availability.
 - Govt. Insurance: General Ward only
 - Private Insurance/Cash: Allotted as per policy or preference

ANALYSIS & FINDINGS

PATIENT DISTRIBUTION IN HOSPITAL



1. Cash Patients (30%)

- This group is the highest because cash-paying patients often include walk-ins, emergency cases, and those who prefer quicker services without third-party processing.
- Many patients may not be covered under insurance or government schemes, especially in urban or semi-urban areas.

2. Insurance Patients (25%)

- A strong second-highest group, due to increasing awareness and adoption of health insurance among the middle class.
- Hospitals also tie up with multiple insurance companies, increasing access.

3. PMJAY Patients (20%)

- This government scheme covers economically weaker sections, and the share reflects the hospital's outreach to rural/low-income patients.
- Slightly lower than insurance and cash patients due to eligibility restrictions and documentation needs.

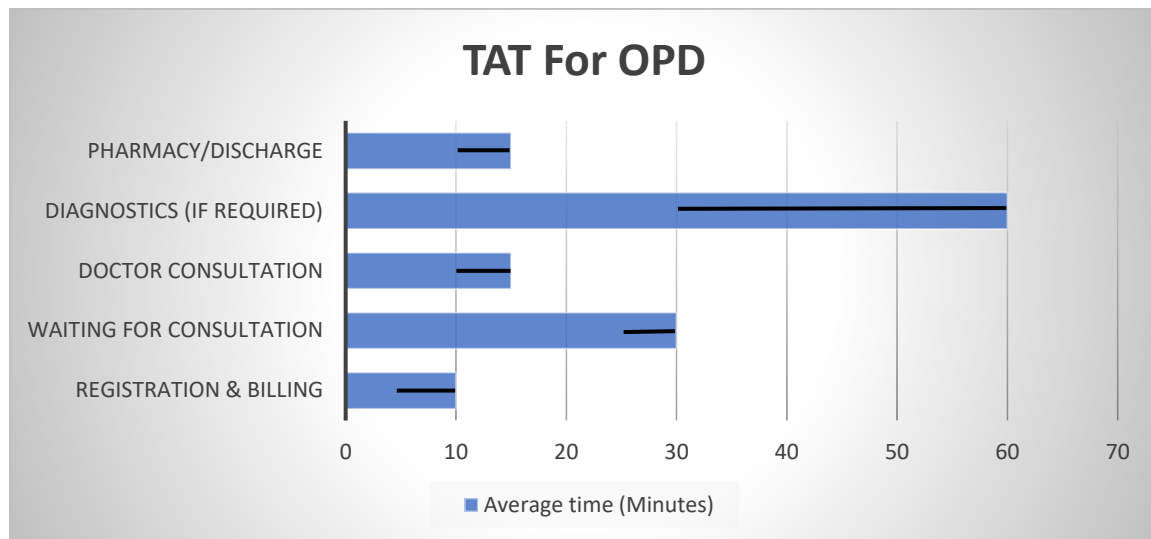
4. Corporate Patients (15%)

- These are usually employees from companies that have tie-ups with the hospital.
- The number is moderate since it depends on how many organizations have partnered with the hospital.

5. Referrals/Others (10%)

- This is the smallest group, often consisting of patients referred by clinics, doctors, or NGOs.
- Lower because such referrals depend heavily on external networks and marketing.

TAT for OPD



Average TAT: 60–90 minutes per patient

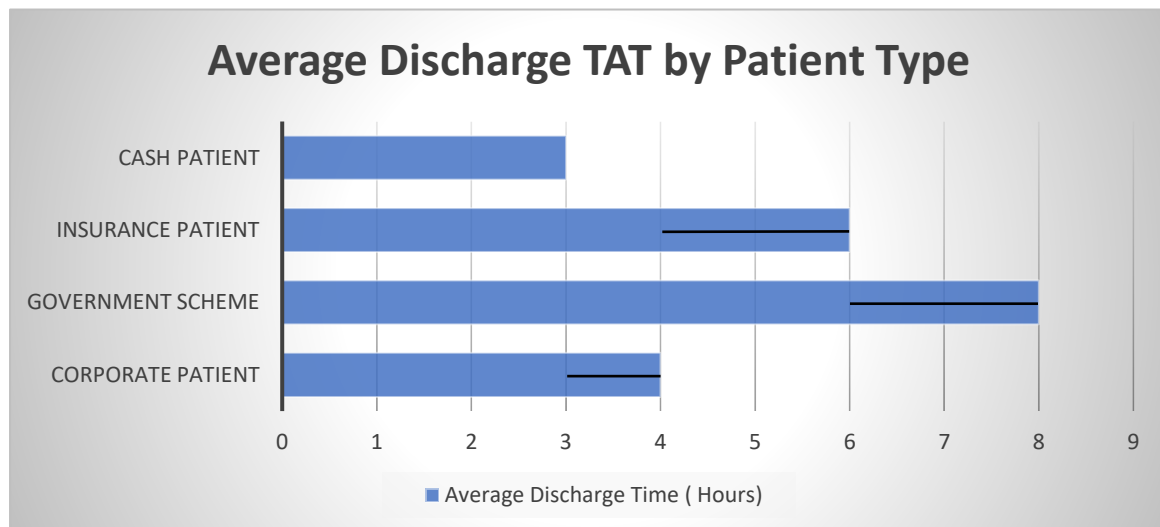
This includes:

- **Registration & Billing:** 5–10 mins
- **Waiting for Consultation:** 15–30 mins
- **Doctor Consultation:** 10–15 mins
- **Diagnostics (if required):** 30–60 mins
- **Pharmacy/Discharge:** 10–15 mins

Observations:

- **Peak Hours (10 AM – 1 PM):** Higher footfall, longer waiting times.
- **Delays:** Often caused by diagnostic backlog or doctor availability.
- **Strengths:** Quick registration, well-trained front desk, streamlined billing.
- **Challenges:** Managing patient flow during high volume, especially in specialty clinics.

HDU Discharge time



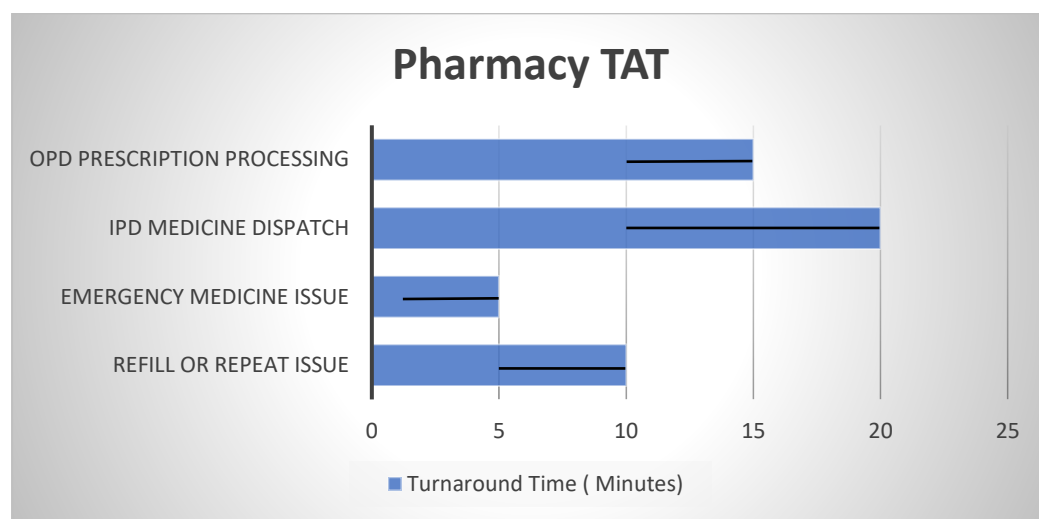
HDUs – Average Discharge TAT by Patient Type

<u>Patient Category</u>	<u>Average Discharge TAT</u>	<u>Key Reasons for Time Variation</u>
Cash Patient	2–3 hours	Payment processing, final bill approval, doctor clearance
Insurance Patient	4–6 hours	TPA (Third-Party Administrator) approval, document upload, billing clearance
Government Scheme	6–8 hours	Scheme verification, government officer approval, documentation
Corporate Patient	3–4 hours	Authorization checks with employer, final billing

Analysis:

- **Cash patients** are usually discharged faster as the process is internal and immediate.
- **Insurance and government scheme patients** face delays due to third-party approvals.
- **Corporate patients** fall in between, depending on how quickly HR or the corporate desk responds.

TAT for Pharmacy



Pharmacy TAT (Turnaround Time) – Utkal Hospital

Activity	Average TAT
OPD Prescription Processing	10–15 minutes
IPD Medicine Dispatch	10–20 minutes
Emergency Medicine Issue	2–5 minutes (priority)
Refill or Repeat Issue	5–10 minutes

CHAPTER-6

(Conclusions and Suggestions)

Suggestions

- Introduce token-based or appointment systems to reduce queue congestion.
- Deploy digital signboards or SMS alerts for real-time queue updates.
- Fast-track counters for follow-up or prescription refills.
- Initiate discharge paperwork earlier in the day.
- Maintain a checklist for documents to avoid last-minute delays.
- Regularly analyze consumption data to predict demand and reorder proactively
- Set and monitor Reorder Levels and Reorder Quantities in the ERP system.
- Combine ABC (value) and VED (vitality) analysis to prioritize critical and high-movement items.
- Maintain a buffer for life-saving and emergency-use medicines.
- Track vendor delivery timelines to adjust order cycles and avoid delays.
- Implement daily checks for near-expiry, fast-moving, and low-stock items.
- Integrate real-time low-stock alerts in the pharmacy ERP for timely action.
- Refresher training for staff on waste segregation and handling.
- Automated alerts for full-bin pickup to avoid overflows.
- Dedicated infection control audits to ensure adherence to protocols.
- Regular reviews of weight logs to track abnormal spikes in waste generation.
- Implement triage automation using mobile tabs for faster data entry and vitals capture
- Strengthen the bed turnover process with faster discharge-clearance coordination
- Add a real-time dashboard showing available beds, waiting patients, and patient categories
- Streamline workflows with predefined SOPs for each patient category to reduce TAT

Conclusion

During my internship at Utkal Hospital, I gained comprehensive exposure to core operational processes across multiple departments, enhancing my understanding of healthcare management and patient-centric service delivery. In the Outpatient Department (OPD), I observed efficient patient registration, billing, and flow coordination, while in the High Dependency Unit (HDU), I learned about discharge protocols, documentation accuracy, and interdepartmental collaboration for seamless patient movement.

My engagement in patient feedback collection strengthened my communication skills and highlighted the importance of quality assurance in service delivery. In the Pharmacy Department, I explored end-to-end drug procurement, inventory management using ABC analysis, billing based on patient type, and temperature-controlled medicine storage. I also understood how biomedical waste is classified, segregated by color coding, and safely disposed of in compliance with regulatory standards. My time in the Emergency Department (ED) revealed the critical importance of triage, real-time communication, and SOP adherence for patient admissions.

I analyzed key turnaround times (TATs) across departments, identifying process delays based on billing categories and patient load, and proposed operational improvements such as triage digitization, better bed management, and optimized pharmacy inventory control. This internship provided me with a holistic view of hospital operations, strengthened my problem-solving skills, and equipped me with actionable insights to support efficiency, compliance, and patient satisfaction in a real-world healthcare setting.

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