

An Observational Study on In-Patient Department (IPD) of Healthworld Hospitals, Durgapur

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Abstract : This observational study investigates the operational efficiency, patient satisfaction, and service delivery mechanisms within the In-Patient Department (IPD) of Healthworld Hospitals, Durgapur. Conducted over a two-month internship period from July 10, 2024, to September 10, 2024, the research evaluates key operational parameters including patient admission and discharge workflows, nursing care responsiveness, facility cleanliness, and interdepartmental coordination. A mixed-methods approach combining quantitative patient satisfaction surveys, semi-structured staff interviews, direct observational checklists, and hospital record evaluations was utilized. Findings indicate high overall patient satisfaction driven by medical expertise, compassionate communication, and stringent bio-medical waste segregation and safety protocols. However, operational bottlenecks were identified in discharge processing timelines, peak-hour staff workload management, and specialized equipment availability. Actionable recommendations are provided to streamline administrative clearances, optimize staff scheduling, and enhance facility infrastructure, thereby optimizing IPD performance and patient-centered healthcare delivery.

IndexTerms - In-Patient Department (IPD), Hospital Operations, Patient Satisfaction, Healthcare Quality, Discharge Management, Bio-Medical Waste, Healthworld Hospitals.

1. INTRODUCTION

Hospital or healthcare waste management and operational efficiency are critical components of modern healthcare administration. In hospital settings, operational workflows directly influence clinical outcomes and patient perception of care. The In-Patient Department (IPD) serves as the core operational center of a tertiary care hospital, managing bed occupancy, intensive care services, daily nursing care, diagnostic coordination, and patient recovery.

Healthworld Hospitals, located in Durgapur, West Bengal, is a prominent 300-bed multi-specialty tertiary care healthcare institution established in August 2017. Positioned strategically near the Kolkata-Durgapur Expressway, the hospital offers comprehensive medical services backed by state-of-the-art infrastructure, advanced diagnostics, and reputed medical specialists. Adhering to strict clinical excellence, ethical practices, and patient-centric care, Healthworld Hospitals achieved National Accreditation Board for Hospitals & Healthcare Providers (NABH) accreditation within its first year of operation.

2. NEED OF THE STUDY

With increasing patient volumes and complex multi-specialty healthcare demands, effective IPD management is crucial for minimizing stay duration, preventing hospital-acquired infections, and ensuring continuous quality care. Previous literature highlights that waiting times, registration procedures, billing delays, and communication gaps are significant determinants of patient dissatisfaction. While substantial research focuses on Outpatient Departments (OPD), empirical studies specific to IPD operations, patient discharge dynamics, and bed turnover efficiency in regional tertiary hospitals remain limited. This study addresses this research gap by analyzing IPD operational processes, evaluating patient satisfaction, identifying procedural bottlenecks, and proposing evidence-based recommendations for service optimization.

3. RESEARCH METHODOLOGY

This study employs a descriptive, cross-sectional, mixed-methods design combining both quantitative and qualitative data collection tools to evaluate IPD performance at Healthworld Hospitals, Durgapur.

3.1 Population and Sample

The target population comprised inpatients admitted across various wards and intensive care units (ICUs) and the multi-disciplinary healthcare team (doctors, nurses, operations managers, and administrative staff) active during the study period from July 10, 2024, to September 10, 2024. A representative random sampling technique was utilized for patient surveys, alongside purposive sampling for qualitative staff interviews.

3.2 Data and Sources of Data

Primary data were gathered using structured patient satisfaction surveys, semi-structured staff interview forms, and standardized observational checklists. Secondary data were sourced from internal hospital operational records, departmental floor mapping, safety protocol manuals, and peer-reviewed literature.

3.3 Operational & Analytical Framework

The framework categorizes operational parameters into independent variables (staffing levels, communication efficiency, infrastructure quality, discharge protocols, and bio-medical waste management) and dependent variables (patient satisfaction score, length of stay, discharge turn-around time, and service quality index).

4. RESULTS AND DISCUSSION

4.1 Key Operational Observations

- **Patient Satisfaction & Care Quality :-** Inpatients reported high levels of satisfaction with physician expertise, nursing care responsiveness, and compassionate communication. Cleanliness and room maintenance received positive scores.
- **Staffing & Workload Distribution :-** Interprofessional collaboration was robust; however, staff experience heightened workload pressures during peak admission/discharge hours, occasionally delaying non-urgent patient requests.
- **Discharge Workflow :-** Bottlenecks were observed during final discharge clearances, pharmacy dispensing, and financial billing clearance, prolonging patient waiting times.

4.2 Floor Structure & Departmental Layout

Observations confirmed a well-organized vertical layout supporting efficient workflow across the facility :-

Floor / Level	Key Departments & Facilities
Basement	Maintenance, Staff Dining, Fire Safety, Swastha Sathi Desk, Linen Room, Housekeeping, Dietetics, GDA Office, Central Pantry.
Ground Floor	Emergency Dept, Main Reception, Admission & Billing Desks, TPA/Insurance Desk, Radiology & Imaging (MRI, CT, USG, X-Ray), OP Pharmacy, Report Dispatch.
1st Floor	OPD Clinics, Gastro Suite, Echo/TMT, ECG/Holter, Sample Collection, Blood Bank, Main Laboratory Services.
2nd & 3rd Floor	ICU Complex (ICU 1–5), Cathlab Complex, Operation Theatre (OT) Complex, Labor Room, Isolation Units.
4th & 5th Floor	NICU, PICU, Pediatric & O&G Wards, CSSD, Dialysis Unit, Female General Wards, Semi-Private Rooms.
6th & 7th Floor	Male/Female General Wards, IP Pharmacy, IT Department, Private Deluxe Rooms, Admin, HR, Finance, Quality, & Operations Offices.
Rooftop	Central Water RO Plant, Lift Machine Rooms, Central Medical Store.

4.3 Bio-Medical Waste Segregation & Safety Protocols

The facility strictly adheres to the Bio-Medical Waste Management Rules (2016). Segregation procedures and standard hospital safety code practices observed are summarized below :-

Category Color	Waste Type / Designated Items
Yellow Waste	Anatomical waste, placenta, cotton swabs, soiled linen, expired medicines, cytotoxic drugs, surgical dressings.
Red Waste	Contaminated recyclable plastic waste, tubing, IV sets, catheters, urine bags, gloves, syringes without needles.
White Containers (PPC)	Sharps, needles, scalpels, blades, contaminated fixed metal sharps.
Blue Containers	Broken glass items, medicine vials/ampoules, glass slides, metallic body implants.

Emergency Code	Identified Situation / Protocol
Code Red	Fire Emergency
Code Blue	Medical Emergency (Unconscious / Unresponsive Patient, Attendant, or Staff)
Code Pink	Patient / Child Abduction or Missing Person
Code Yellow	External Disaster
Code Black	Internal Disaster
Code Violet	Violent Patient, Attendant, or Staff Situation
Code Orange	Hazardous Material / Liquid Spill

5. RECOMMENDATIONS & DISCUSSION

To optimize IPD operations, streamline patient throughput, and elevate quality metrics, the following strategies are proposed :-

- Streamlining the Discharge Process :-** Implement a standardized electronic discharge protocol with pre-discharge planning initiated 24 hours prior to actual release. Integrated digital billing clearances can reduce patient wait times significantly.
- Flexible Staffing & Workload Balancing :-** Deploy dynamic staffing models that adjust nurse-to-patient ratios during peak admission and discharge hours to mitigate staff burnout and improve responsiveness.
- Infrastructure & Resource Allocation :-** Expand diagnostic equipment availability and upgrade waiting lounges to reduce crowding during visiting hours.
- Quality Assurance & KPI Tracking :-** Establish regular audits focusing on key performance indicators (KPIs) such as average length of stay (ALOS), readmission rates, bed turnaround time, and patient feedback metrics.

CONCLUSION

The observational evaluation of the In-Patient Department at Healthworld Hospitals, Durgapur, demonstrates a strong operational foundation characterized by high clinical care standards, robust safety practices, and effective interdisciplinary teamwork. Addressing procedural delays in patient discharge, optimizing staff allocation during high-volume periods, and enhancing digital system integration will consolidate the hospital's position as a regional leader in patient-centered healthcare.

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