

SUMMER INTERNSHIP PROGRAM

At Narayana Institute of Cardiac Sciences, Bangalore



Health for all, all for health

From 12-05-2025 to 25-07-2025

A REPORT BY

Chandan Jha

MBA (Hospital & Health Management)

Roll No. – 1929

2024 – 2026

Under the mentorship of

Faculty Mentor

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President, IIHMR University

Jaipur, Rajasthan

Hospital Mentor

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Narayana Health city, Bangalore

Mr. Sandeep KS

Supply chain Manager, NICS

Narayana Health City, Bangalore



NH/HR/25/343

25th July 2025**TO WHOMSOEVER IT MAY CONCERN**

This is to certify that **Mr. Chandan Jha** student at **IIHMR University Jaipur** pursuing **Hospital & Healthcare Management** he has completed his internship at **NH-Bangalore Cardiac** from **12th May 2025 to 25th July 2025**.

During his internship period he was assigned to **Operations** and **Material management (SCM) Department** in **Narayana Institute of Cardiac Science, Bangalore** he has made noteworthy contributions on the topic assigned.

We wish him good luck in his future endeavors.

For Narayana Hrudayalaya Ltd.


Santhosh C
Senior Manager
Human Resources

Narayana Institute of Cardiac Sciences

(A Unit of Narayana Hrudayalaya Limited) CIN: U85110KA2000PLC027497

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IIHMR University Faculty Mentor Approval

This is to certify that **Mr. Chandan Jha** of academic_year 2024-26 of **Institute of Health Management Research** has prepared a poster with respect to his summer internship held during May-July 2025.

He has carried out work as per the guidelines. His poster is approved for presentation.

A blue ink signature of Dr. P.R. Sodani, written in a cursive style.

Dr. P.R. Sodani

President

IIHMR University

Date : 28/07/2025

- 3. Realized how OPD footfall and estimation accuracy drive IPD conversion, bed occupancy and revenue generation.

Usefulness of Internship

- Bridged clinical exposure with strategic hospital operations.
- Improved multitasking & interdepartmental coordination (OPD, billing, pharmacy).
- Sharpened skills in revenue cycle management, cost estimation and patient flow optimization.
- Cultivated understanding of patient-centric care through negotiation & communication.

ACKNOWLEDMENT

Practical exposure at **Narayana Institute of Cardiac Sciences, Bommasandra, Bangalore** allowed me to understand the workflow, different functions and managerial aspects of a super specialty hospital. I am thankful to HR department who gave me an opportunity to be part of this internship journey.

During this 2.5 month of training process, I have interacted with core functions and challenges of operations and supply chain department. I take this opportunity to express a deep sense of gratitude to our Facility director - **DR. NITIN AIYAPPA SIR**, Operation Manager **MR. GREGORY KIRAN SIR**, Supply Chain Manager - **MR. SANDEEP KS SIR** and my senior- **MR. SOUMAK SIR** for their cordial support, valuable information and guidance which help me in completing this internship process through various stages.

Every meaningful journey is built on the foundation of dedication, genuine effort, and a deep sense of purpose. My internship experience has been truly enriching, allowing me to connect academic knowledge with practical, real-world scenarios. This learning journey was made smoother and more insightful thanks to the constant encouragement, valuable mentorship, and cooperation from my seniors, guide, and staff members across various departments. I sincerely appreciate each person who played a role in supporting and shaping my experience throughout this internship.

I would also like to thank our MBA Hospital and Health Management dean - **DR. SANJAY GUPTA SIR AND MR VINOD TEJWANI SIR** - Head of placement cell, **IIHMR University, Jaipur** for arranging a scope of this training process.

A thank you to **IIHMR University** president and my mentor **DR. PR SODANI SIR** and **MS KIRTI AGRAWAL MA'AM** (Strategy head, IIHMR University) for always being my side and providing all the support and guidance at every step of my MBA and this internship Journey.

A special thank you to my evergreen supporting parents and the family who have been supporting, motivating and guiding at every stage of my life.

In fact, it is very difficult for me to write everyone's name here (**Froom IIHMR University / Narayana Health**) who have directly or indirectly supported and guided me in this internship journey.

DECLARATIONS

I do hereby declare that this summer internship project entitled “**Cardiac OPD Estimate to IPD Admission – A conversion analysis**“, "**Exploring Wrong Indents in Critical Care: Insights from a Nursing Survey**", and "**Exploring EMR vs CPOE-Based Indenting in Critical Care: A System Analysis and Perception Study**"

is my original work and carried out by me for the research purpose during this summer internship as a part of my academic curriculum (MBA Hospital & Health Management).

This report reflects my classroom learnings to its real time application and the experience I have gained while working as an intern in both Operations and Supply Chain department in Narayana Institute of Cardiac Sciences, Bangalore.

All the activities done, the data analysis for my project, learned insights, observed challenges and the way to overcome those challenges during this internship period, while working across various departments has been compiled in weekly format report and attached in further pages.

I further declare that the project work or any other part of this compiled report has been done only for learning and academic purposes and has not been submitted or published for any other purpose before.

Name – Chandan Jha

Course – MBA Hospital and Health Management

Roll no. – 1929

Executive Summary

As part of my internship at Narayana Institute of Cardiac Sciences, Bangalore, I worked under both **Operations and Supply Chain Management departments**, allowing me to bridge administrative processes with clinical realities. My engagement involved **three structured projects** complemented by active participation in daily departmental workflows, giving me a 360-degree perspective on hospital operations.

The first project, titled ***“From Cardiac OPD Estimate to IPD Admission: A Conversion Analysis”***, aimed to identify the key determinants influencing patient admission after receiving a cost estimate for cardiac procedures. By analysing data extracted from the hospital's HMIS (ATHMA) and conducting patient follow-up calls, I mapped conversion barriers—ranging from affordability concerns to procedural delays and scheduling gaps. The study emphasized the need for streamlining estimate issuance, patient counselling, and multidisciplinary coordination to enhance procedural uptake and operational efficiency.

The second project, ***“Exploring Wrong Indents in Critical Care: Insights from a Nursing Survey”***, focused on identifying the root causes behind the wrong indents for the pharmacy in ICU settings. Responses from frontline nursing staff revealed several contributing factors such as drug name similarities, lack of real-time inventory updates, and brand inconsistencies. The project underscored the operational risks posed by supply chain lapses and recommended targeted interventions like training sessions, system standardization, and improved inventory dashboards.

The third project, ***“Exploring EMR vs CPOE-Based Indenting in Critical Care: A System Analysis and Perception Study”***, explored digital workflows associated with medical ordering systems. By assessing physician feedback and reviewing system logs, I evaluated how EMR and CPOE platforms impact the accuracy and efficiency of indenting practices. The results pointed to usability issues, system fatigue, and incomplete adoption as key gaps—highlighting the need for user-centric EMR design and streamlined digital onboarding practices.

Beyond research, I was engaged in core departmental tasks such as daily admission tracking, estimate preparation, ICU coordination, GRN (Goods Receipt Note) handling, inward and outward stock documentation, and pharmacy order reconciliations. These hands-on experiences helped me appreciate the critical balance between frontline service delivery and backend logistics that sustains patient care quality.

This internship has been instrumental in enhancing my understanding of integrated hospital systems, patient-centred workflow optimization, and the importance of aligning clinical needs with administrative and digital infrastructure. Each project not only addressed a distinct operational challenge but also contributed to my growth as a future healthcare management professional committed to evidence-based improvement.

POSTER



Name Chandan Jha
Roll no.- 1929
MBA Hospital and Health Management (HM 29)
Faculty mentor – Dr. PR Sodani Sir (President, IIHMR University)
Industry mentor – Mr. Gregory Kiran K Sir (Operations Manager, NICS)



From Cardiac OPD Estimate to IPD Admission: A Conversion Analysis “-Narayana Health City, Bangalore (NICS – Operations Department)

HOSPITAL OVERVIEW

Narayana Health (NH), founded in 2000, is a leading Indian healthcare chain known for its affordable and high-quality care model.
· Its flagship unit, Narayana Institute of cardiac sciences (NICS), is a 606-bedded, JCI & NABH accredited cardiac super-specialty hospital, located at Narayana Health City, Bangalore.
· NH serves ~3 million patients annually across 17 hospitals, 7 cardiac centers and 30 clinics across India and 2 Multi specialty hospitals in Cayman Islands.

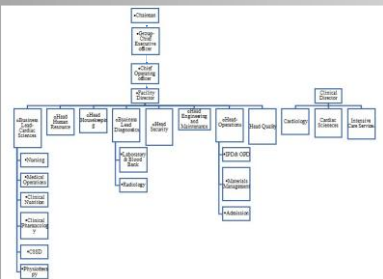
Vision and Mission

Vision – To provide high quality healthcare with care & compassion at an affordable cost on a large scale.
Mission – Dream of making quality healthcare available to the masses worldwide.

Training Session



Organizational Structure



SWOT Analysis

Strengths	Weakness
An affordable, tech-driven patient care across an accredited hospital network with strong quality & safety protocols and regulatory compliances	Regionally concentrated, reliant on philanthropy concept, and face major challenges in aligning high volume with unified vision.
Opportunity	Threat
Scope to expand into underserved regions and international markets, pursue more quality accreditations, and expand into the healthcare insurance sector to provide comprehensive care.	Potential changes in healthcare regulations, geopolitical instability and increasing competition in the local markets may impact patient volume, quality of care and revenue generation.

Front View of NICS



Project Objective

- To analyze conversion pattern of cardiac patients from OPD estimate to admission.
- To identify key factors leading to non-conversion and suggest recommendations to improve conversion rate.

Study Period: May 12 – June 21, 2025

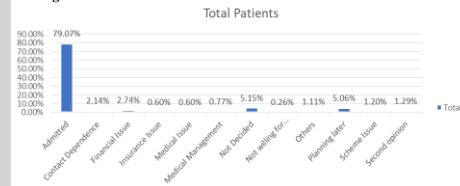
Data Source: Package Department database + HMIS (ATHMA)

Follow-up: Telephonic + Cross-validation of admission status through HMIS.

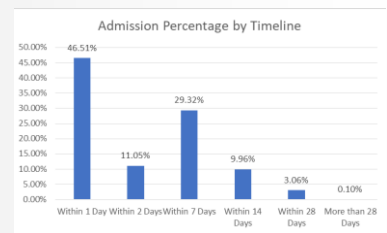
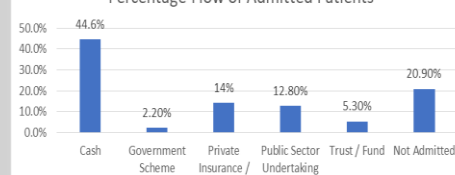
Sample Size: 1166 patients (Adult + Pediatric | Domestic + International)

Exclusion Criteria: Procedure plan after 6 months/ just to know estimate

Findings



Percentage Flow of Admitted Patients



Challenges faced

- Multilingual communication hurdles during follow-up.
- Contact dependence for multiple patients.
- Inter Departmental communication gaps

Recommendations

- Arrange Structured & counsellor-led follow-ups for clinical clarity and confidence-building.
- Proactively communicate available financial support at the time of estimate.
- Reduce turnaround time (TAT) in OPD consultations and diagnostics.
- Keep structured feedback at estimation desk for service optimization.
- Collect alternate contact (especially WhatsApp) for each estimate case.
- Improve inter-departmental coordination via shared scheduling tools.
- Implement real-time dashboards to monitor OPD-to-IPD conversion status.

Classroom vs. Practical Exposure

Aspect	Theoretical (Classroom)	Practical (On-site)
Communication	Structured, model-based	Adaptive, emotionally intelligent
SOP Adherence	Assumed universal compliance	Dynamic; influenced by real-time constraints
Patient Flow	Linear and systematic	Dependent on externalities (doctor timing, diagnostics delay)

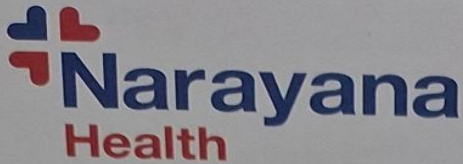
Key Learnings from Internship

1. Learned differences in General OPD vs Executive OPD pathways, packages, and payment modes (cash/insurance/scheme).
2. Importance of TAT in OPD/IPD for operational efficiency & patient experience.
3. Realized how OPD footfall and estimation accuracy drive IPD conversion, bed occupancy and revenue generation.

Usefulness of Internship

- Bridged clinical exposure with strategic hospital operations.
- Improved multitasking & interdepartmental coordination across OPD and IPD.
- Sharpened skills in revenue cycle management, cost estimation and patient flow optimization.
- Cultivated understanding of patient-centric care through negotiation & communication.

Completion Certificate from Organization



NH/HR/25/343

25th July 2025

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We wish him good luck in his future endeavors.

For Narayana Hrudayalaya Ltd.


Santhosh C
Senior Manager
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CHAPTER 1:

Organization Profile: Narayana Hospital, Bangalore

1.1 Narayana Hospital

Narayana Institute of Cardiac Sciences (NICS) is a premier super-specialty cardiac hospital under the Narayana Health network. Accredited by both Joint Commission International (JCI) and National Accreditation Board for Hospitals & Healthcare Providers (NABH), it stands as one of the largest cardiac care centres globally.

Location of the hospital

- **Address:** 258/A, Bommasandra Industrial Area, Anekal Taluk, Hosur Road, Bangalore, Karnataka – 560099
- **Phone:** +91 97384 97384
- **Email:** info.nics@narayanahealth.org
- **Website:** <https://www.narayanahealth.org/hospitals/bangalore/narayana-institute-cardiac-sciences-bommasandra>

Infrastructure & Capacity

- Total Beds: 606
- Cardiac Operation Theatres: 23 dedicated cardiac operation theatres
- Digital Cath Labs: 6 digital catheterization laboratories, including 2 hybrid labs capable of performing both interventional procedures and complex heart surgeries
- Critical Care Beds: 200 critical care beds for post-operative care
- Paediatric Cardiac ICU: One of the largest paediatric intensive care units globally

1.2 Formation and History

Narayana Health, formerly known as Narayana Hrudayalaya, was founded in 2000 by Dr. Devi Prasad Shetty, a renowned cardiac surgeon. The organization began as a 280-bed heart hospital in Bangalore and has since grown into a prominent healthcare network. It started with a single hospital in Bengaluru and has grown into a multi-speciality hospital chain with a significant presence both in India and internationally.



1.3 Vision, Mission, and Objectives

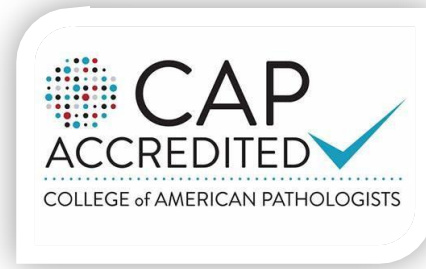
Vision: To provide high-quality healthcare, with care and compassion, at an affordable cost, on a large scale.

Mission: To deliver high quality, affordable services to the broader population worldwide.

Objectives: To expand healthcare services across underserved regions, integrate advanced technology in medical care, and enter the healthcare insurance sector.

1.4 Accreditations and Certifications

Narayana Health adheres to national and international healthcare standards, with 13 hospitals accredited by the National Accreditation Board for Hospitals & Healthcare Providers (NABH) and been awarded by the Joint Commission International (JCI) with India's First and Globally Sixth Enterprise Accreditation.



1.5 Associations and Partnerships

Narayana Health collaborates with various corporates and NGOs globally, such as the Nigerian National Petroleum Corporation, MEAK Foundation in Kenya, and Chain of Hope in the UK, to provide quality healthcare services.



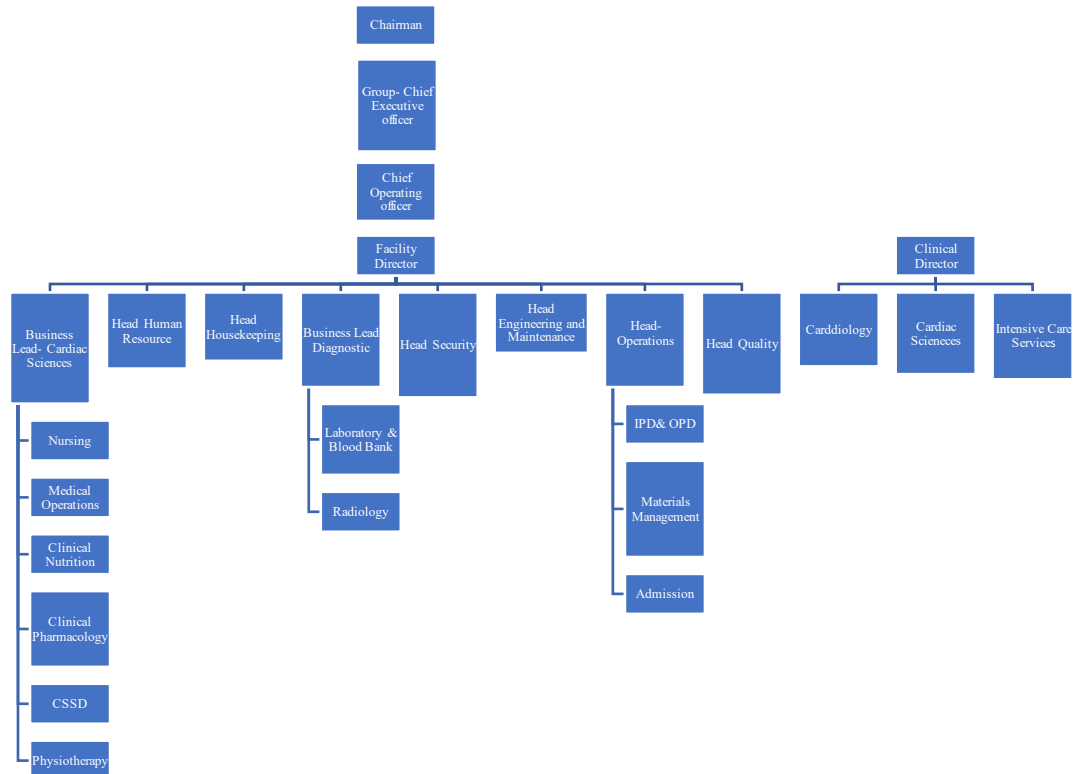
1.6 Services Offered

Narayana Health offers a wide range of healthcare services across various specialties, including:

- Cardiac sciences: Both adult and Paediatric cardiology and cardiac surgery
- Oncology: Comprehensive cancer care services
- Neuroscience: Neurology and Neurosurgery
- Orthopaedics: Advanced treatments and surgeries for bone and joint issues.
- Gastroenterology, Nephrology and Urology: Specialized services in these domains.
- Robotic Surgery: Cutting-edge minimally invasive procedures.
- Organ transplant: Kidney, liver, and bone marrow transplants

The group is also focusing on expanding its oncology services and integrating robotic technology across various medical fields

Organogram of Narayana Health



Chapter 2 – Projects

Project Title: "From Cardiac OPD Estimate to IPD Admission: A Conversion Analysis"

1. Introduction

In any tertiary level hospital specially in the specialized cardiac centres, it's not unusual for patients to request an estimation of cost for the cardiac surgery or cardiac procedures in OPD. But all estimated cases aren't admitted, which impacts operational planning as well as revenue generation. This project investigates the deficit between estimation and admission in the cardiac care hospital, with the aim to determine rates of conversion and non-conversion reasons. Findings of this project will be useful in enhancing operational strategy, patient counselling, and resource management of the hospital.

2. Objectives

Primary Objective:

To find out the conversion rate of cardiac patients from OPD estimate to IPD admission.

Secondary Objectives:

To document and classify reasons for non-conversion.

To evaluate the demographic and procedural patterns in converted versus non-converted patients who took the estimate.

3. Research Methodology

3.1 Study Design

A cross-sectional and retrospective study with quantitative and qualitative aspects.

• 3.2 Study Setting

Cardiac OPD, Package Department, and Follow up team.

3.3 Study Duration

Data collection: 12th May 2025 to 6th June 2025.

Follow-up calls and HMIS validation until 21st June 2025.

3.4 Study Population

Patients (Both national and international, adult and paediatric) who underwent cost estimation for cardiac procedures or surgeries within the study duration.

3.6 Exclusion Criteria

Patients who clearly stated no plans for right away surgery (e.g., waiting till 6 months to have surgery or only wanted price quotation).

3.7 Sample Size

Total included patients: 1166

Includes adult as well as paediatric cases

National and international patients

4. Data Collection Methods

4.1 Primary Data

Follow-ups were done telephonically time to time to know the admission plans or gather non-admission reasons.

4.2 Secondary Data

Cost estimate information was gathered on a daily basis from Package Department.

Confirmation of admission was validated through HMIS system.

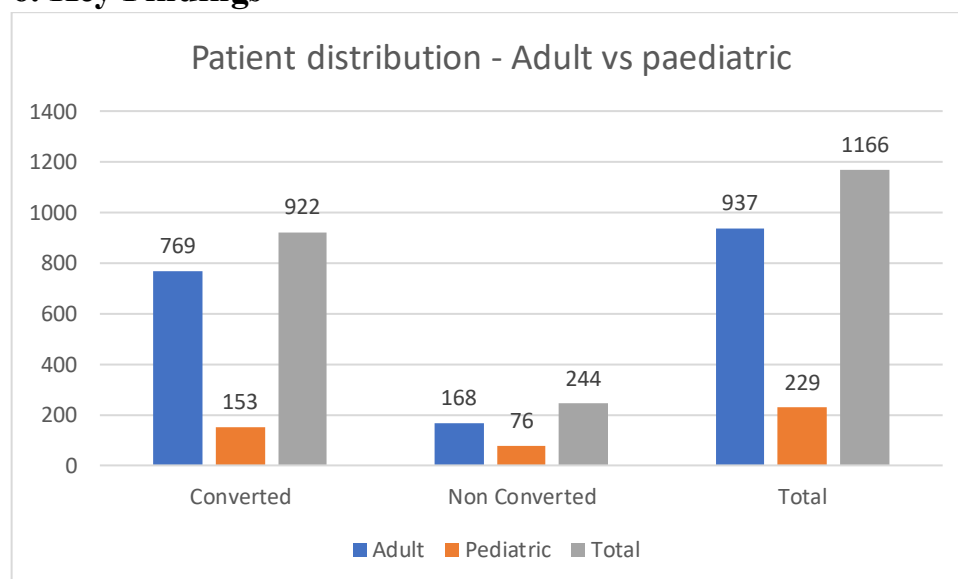
4.3 Tools Used

Excel for data entry and cleaning

Telephonic consultation for generic questions during follow-up

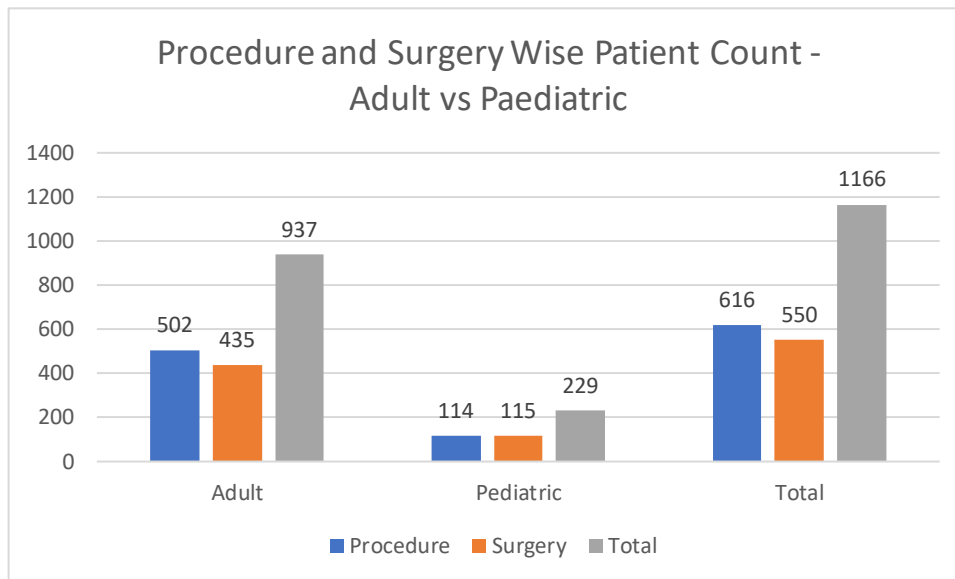
Categorization framework for reasons (e.g., financial, clinical, personal, second opinion)

6. Key Findings



6.1 Patient distribution – Adult vs Paediatric

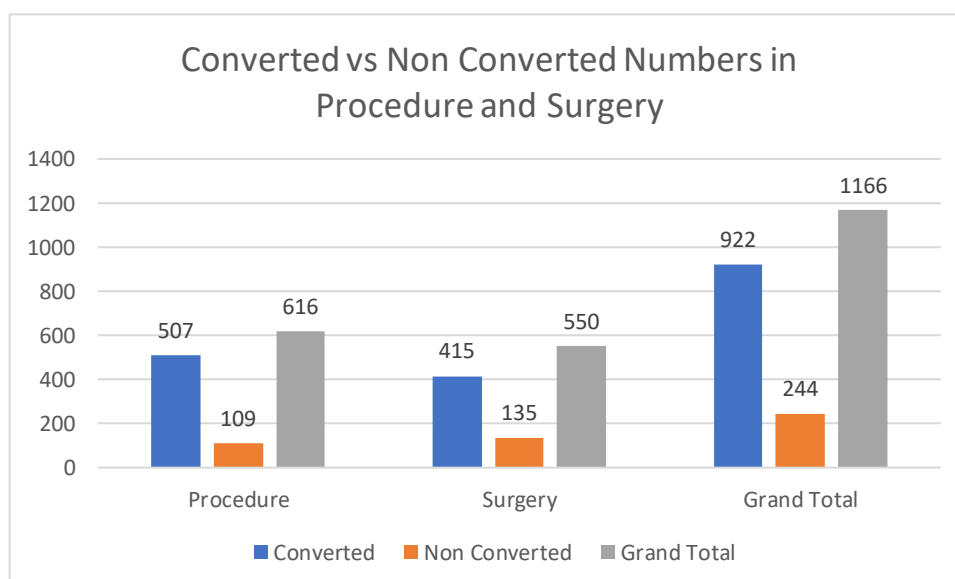
- This chart shows that adults patients (937) constitute the majority of the IPD estimates as compared to paediatric patients (229)
- Conversion rates are better in adults (769) in comparison with paediatrics (153) suggesting better follow up in adults.
- Paediatric non conversion (76 out of 229) highlighting a lower conversion rate in this group.



6.2 Procedure and Surgery Wise Patient Count – Adult vs Paediatric Category

Brief-

- A total of 1166 patients came for either procedures or surgeries in which adults were 937 and paediatrics 229.
- In adult category 502 patients came for procedures and 435 for surgeries which shows a relatively balanced distribution.
- Paediatric patient's counts were nearly equal in both surgery (115) and procedure (114) which indicates a similar preference.
- Overall procedures count 616 and surgeries counts 550 indicating higher utilization of non-invasive interventions.
- Adult patient's volume is significantly higher than paediatric patients in both categories, indicating need for more paediatric outreach/marketing.

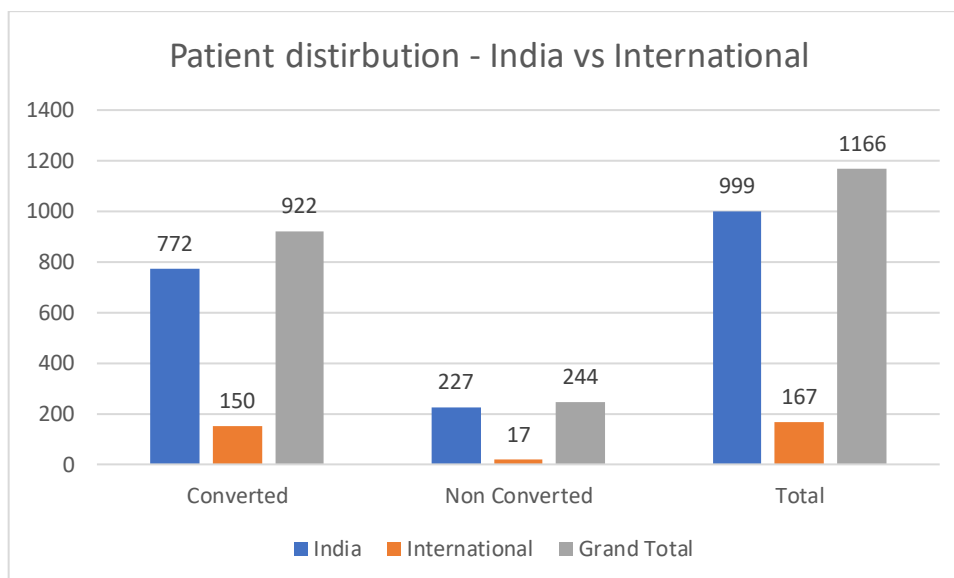


6.3 Converted vs Non-Converted Numbers in Procedure and Category

Points –

- Out of 616 procedure patients, 507 patients (82.3%) got converted showing a strong conversion rate.

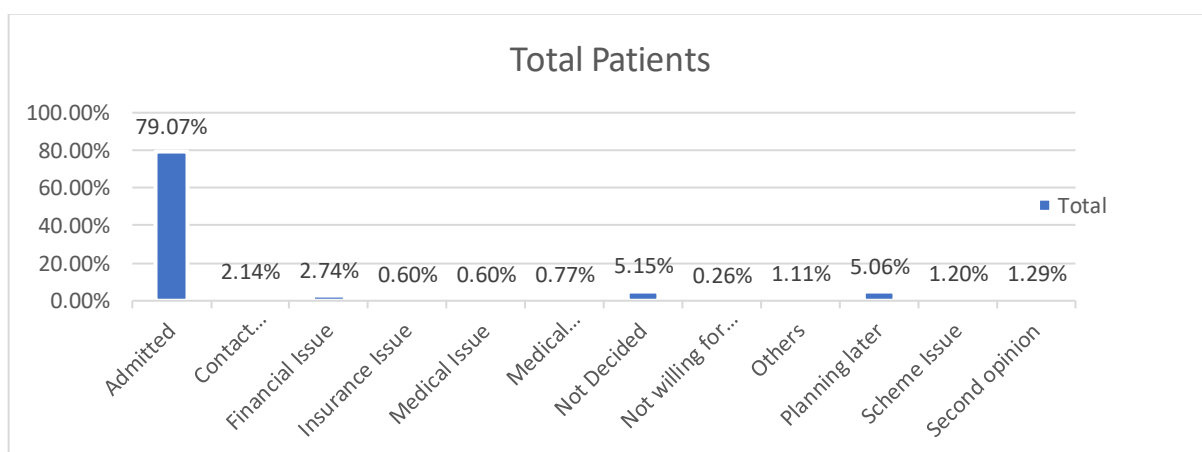
- For surgeries, 415 out of 550 patients i.e. 75.5 % got converted which is slightly lower than the procedure conversion.
- Non conversion is slightly higher in surgeries (135) in comparison to procedure (109).



6.4 – Patient distribution – India vs International

Points –

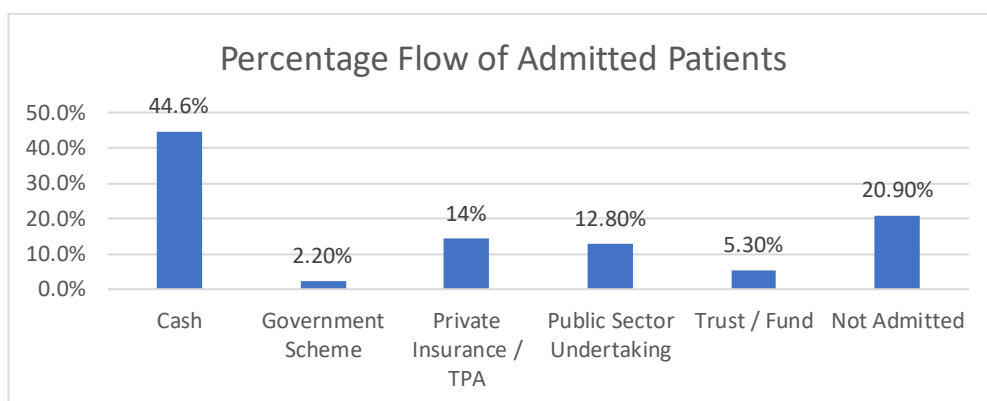
- Out of total estimate taken patients (1166), 999 (86%) were Indian patients and 167(14%) were international patients which shows a higher domestic patients' footfall.
- The conversion rate of international patients (approx. 90 %) is higher than the Indian patients (approx. 77%) which suggest that international patients are more likely to proceed with treatment once they engage with the hospital.



6.5 Percentage of Admitted Patient and Percentage of Multiple Factors Leading to Non-Conversion

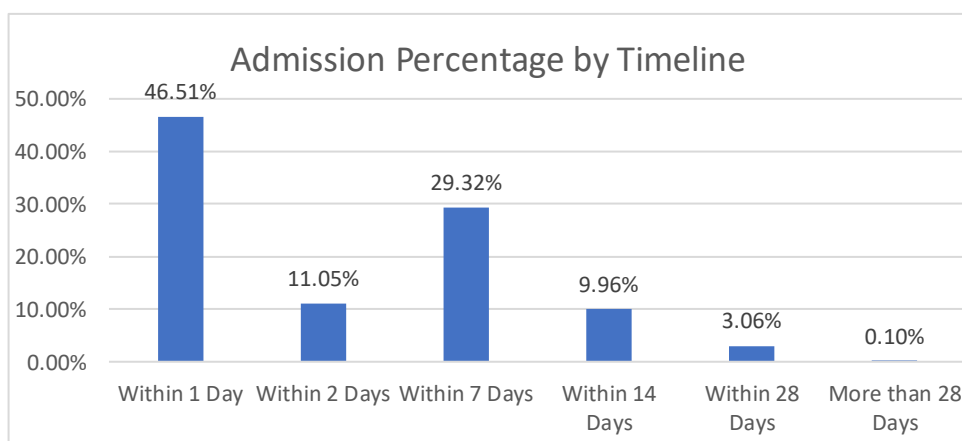
Points –

- Out of total estimate taken patients, 79.07 % got admitted indicating a high conversion rate. However, 1 in 5 patients did not convert, which is significant gap for operational and financial stability.
- The topmost reason for non-conversion include – Not decided (5.15%) and planning later (5.06%) which reflects patient’s indecisiveness or delay.
- Financial issues (2.74%) and contact dependence (2.14%) are noticeable barriers affecting timely admission/ non conversion.
- Some minor factors leading to non-conversion in the given time duration include insurance, medical issues, scheme issues and second opinion – each below 1.3%.



6.6 Percentage Flow of Admitted Patients

- Most of the patients who got admitted approximately 44.6% paid cash which shows high reliance on out-of-pocket expenditure.
- Private insurance/ TPA accounts for 14 % which reflects a moderate role of third-party coverage in patient’s conversion/ admission.
- Government based scheme accounts for only 2.2% which shows underutilization or limited access to government sponsored health insurances.
- 20.9% patients were not admitted due to multi factors (highlighted in previous graph) which indicates a significant gap.



6.7 Admission percentage by timelines

Points –

- 46.5% of the converted patients got admitted within 1 day of estimation which indicates strong same day conversion efficiency.
- Approximately 29% of the converted patients got admitted within 7 days which suggests that enough decisions are made in first week of estimation.
- Limited admissions were there in other categories – 11.05% within 2 days, 9.96% admission 14 days, and only 3.06 % admission were done within 28 days.
- A minimal 0.10% of patients got admitted after 28 days, which shows a low conversion rate after the first month.
- Total 86.88 % of the patients got admitted in first week post getting the estimation which shows that early decision window is necessary for maximizing the admission percentage.

8. Challenges faced

The large part of my summer internship went smoothly; however, I had to face few challenges during the follow up of patients for my summer internship project such as

- Language barriers during follow up calls
- Contact dependence for multiple patients
- Communication gap between consulting team, marketing team and package department for procedure code and tentative admission date.
- Long waiting time for diagnosis and consultation even after prior appointment which played a role in non-conversion for few patients.
- Less awareness among for online appointment & billing system (KIOSK) – leading to massive crowd at the reception for manual doing.

9. Recommendations

- Arrange structured follow up calls to encourage timely decision making
- Arrange patient counsellors for follow ups to provide clarity on procedure urgency, expected outcomes, and next steps
- Proactively communicate available financial support at the time of estimate
- Take alternate WhatsApp number for every patient
- Enhance patient engagement and reduce Consultation TAT to improve patient's satisfaction.
- Implement feedback and satisfaction form for the Package department
- Clear communication between consulting team, marketing team and follow up teams
- Enhance intradepartmental coordination

10. Conclusion:

This project journey offered deep insights into how patients navigate from outpatient consultations to actual hospital admissions in the cardiac care setting. While many patients proceeded with their planned procedures, a notable portion chose not to get admitted, reflecting various personal, medical, or financial constraints. Observing these patterns not only highlighted the strengths of existing processes but also pointed to meaningful gaps that need addressing. Factors like timely follow-up, empathetic counselling, and affordability played a significant role in conversion outcomes. With these learnings, the hospital can work towards improving service delivery,

enhancing trust and ultimately increasing conversion rates—ensuring that no patient delays or avoids necessary treatment due to avoidable barriers.

Project Title - “Exploring Wrong Indents in Critical Care: Insights from a Nursing Survey”

Introduction

In fast-paced critical care settings, accurate indenting of drugs and consumables plays a vital role in timely patient care delivery. However, the complexity of brand names, shifting inventories, and technical challenges in hospital management systems often lead to wrong indents. This project presents insights from frontline nursing professionals about their experiences with wrong indents while using the Hospital Management Information System (HMIS), particularly NAMA and ATHMA.

Aim of the Study

To assess the key factors contributing to wrong indents in critical care areas and identify actionable recommendations from nursing staff to improve accuracy and communication in the indenting process.

Objectives

1. To understand the common reasons behind wrong indents in critical care.
2. To collect frontline nursing feedback on system usability and naming issues.
3. To identify recommendations from nursing staff to reduce such errors.

Research Methodology

Study Design

Descriptive cross-sectional study using a structured Google Form titled *"Nursing Survey on Wrong Indents Using HMIS."*

Study Setting

Critical care areas (ICUs and CCUs) of a tertiary care hospital.

Population

Registered nurses working in critical care units with experience using HMIS for indenting.

Sampling Method

Convenient sampling technique.

Tool of Data Collection

A self-administered, semi-structured Google Form with both closed and open-ended questions.

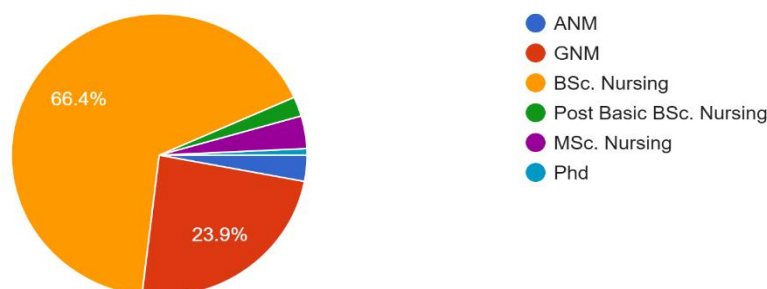
Data Analysis

Qualitative responses were grouped into themes. Repetitive suggestions and feedback were consolidated using thematic analysis to form common categories.

Findings

2. What is your highest qualification in nursing?

134 responses

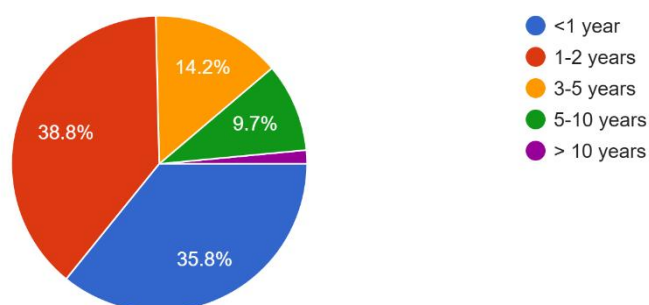


Key Findings: Nursing Qualification Distribution

- Majority of respondents (66.4%) have a B.Sc. Nursing qualification, indicating strong professional nursing education among the staff.
- Around 23.9% of the nurses are GNM diploma holders, still forming a significant part of the workforce.
- Post Basic B.Sc. Nursing and M.Sc. Nursing qualifications are held by a smaller segment, showing limited postgraduate advancement.
- Very few respondents have ANM or Ph.D., suggesting that advanced or entry-level qualifications are less common in critical care settings.
- The results reflect a good base of qualified staff but also highlight the potential for upskilling through higher studies and training programs.

3. How much total experience do you have as a staff nurse?

134 responses

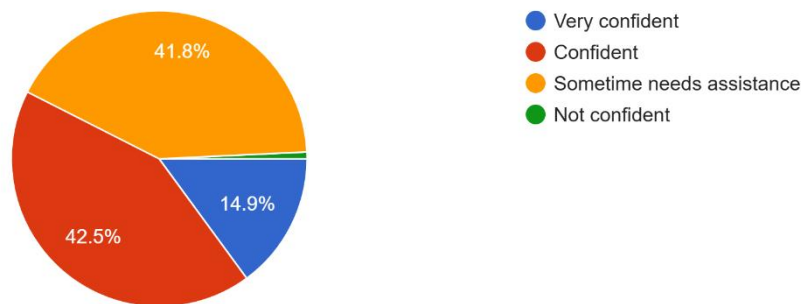


Key Findings: Staff Nurse Experience

- 38.8% of nurses have 1–2 years of experience, forming the largest group of early-career staff.
- 35.8% are relatively new with less than 1 year of experience, indicating a young and fresh workforce.
- 14.2% have been working for 3–5 years, representing a moderately experienced segment.
- Only 9.7% of respondents have 5–10 years of experience, showing fewer long-term nurses in the current team.
- Just a small portion has over 10 years of experience, suggesting that senior clinical experience is limited among current staff.

6. How confident are you while placing pharmacy indents?

134 responses

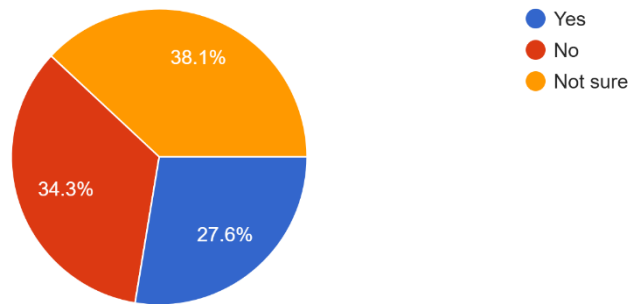


Key Findings: Nurse Confidence in Pharmacy Indents

- 42.5% of nurses feel confident, showing a fair level of comfort with the indenting process.
- 41.8% sometimes need assistance, indicating that nearly half the staff still require guidance while placing indents.
- Only 14.9% feel very confident, highlighting that expert-level confidence is limited.
- Very few are not confident at all, suggesting that while support is needed, complete lack of confidence is rare.
- The data reveals a strong need for training and mentoring programs to help nurses become more independent and accurate in indenting.

7. Does lack of staffing during any shift leads to wrong indent?

134 responses

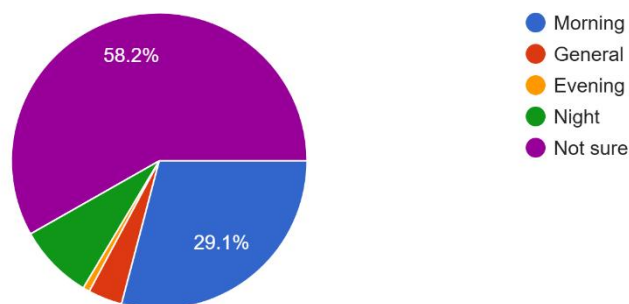


Key Findings: Staffing and Wrong Indents

- Only 27.6% of nurses agreed that lack of staffing contributes to wrong indents.
- 34.3% disagreed, indicating they feel confident managing indents even with limited manpower.
- A significant 38.1% were unsure, showing uncertainty about the direct impact of staffing on errors.
- The split in opinion suggests that staffing may not always be the root cause, but unclear processes and role responsibilities could contribute to mistakes.
- This highlights the need for clear SOPs and support systems, especially during lean staffing hours.

8. Which shift is vulnerable to wrong indents?

134 responses



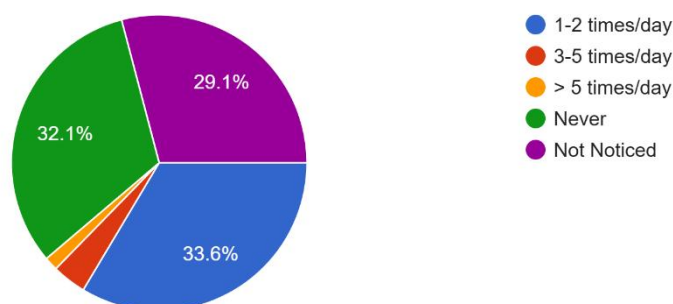
Key Findings: Shift Vulnerability to Wrong Indents

- 58.2% of respondents chose "Not sure", showing uncertainty or lack of monitoring related to shift-specific indent errors.

- 29.1% felt the morning shift is more prone to wrong indents, possibly due to high patient load and multiple procedures.
- Only a small portion (8.2%) pointed to the night shift, which may indicate fewer indents placed during that time.
- Very few selected general or evening shifts as vulnerable.
- The high “Not sure” response highlights the need for better shift-based audit and data tracking to identify real-time patterns of error.

9. How frequently do wrong indents happen by you?

134 responses

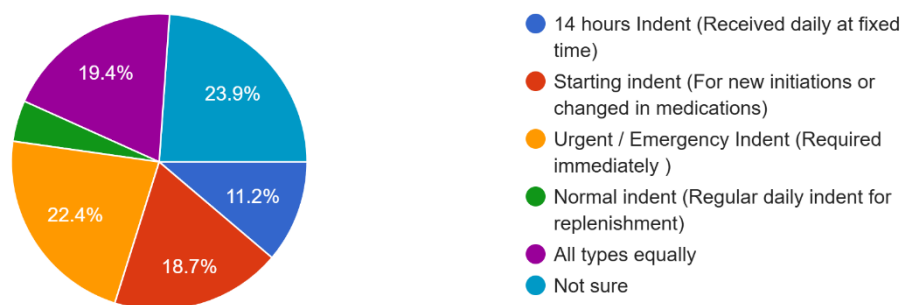


Key Findings: Frequency of Wrong Indents by Nurses

- 33.6% of nurses admitted that they make wrong indents 1–2 times per day, indicating a frequent occurrence.
- 32.1% said "Never", showing that nearly one-third of respondents are confident in avoiding such errors.
- 29.1% marked "Not noticed", suggesting that they may be unaware of mistakes happening, which raises a concern about lack of tracking or feedback.
- A small percentage experience 3–5 or more than 5 errors per day, but it still signals the need for focused intervention.
- These responses indicate that while some nurses are confident, many others may be making errors unknowingly or occasionally, highlighting the need for regular audits and refresher training.

10. What type of indents do you find more prone to wrong indents in your experience?

134 responses

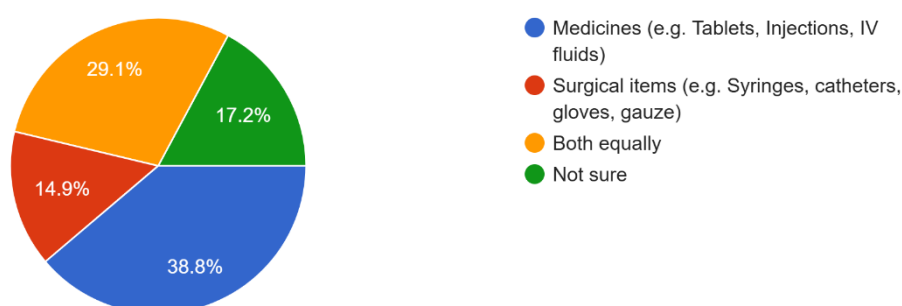


Key Findings: Type of Indents Most Prone to Errors

- 14-hour indents were found to be the most error-prone by 23.9% of nurses—likely due to the bulk volume and routine handling leading to oversight.
- Urgent/Emergency indents were selected by 22.4%, as time pressure in critical moments often leads to mistakes.
- Starting indents (for new medications or changes) contributed to 18.7% of perceived errors, indicating possible confusion in initial entries.
- All types equally prone was marked by 19.4%, suggesting some nurses feel that wrong indents can occur in any format if vigilance is low.
- Only 11.2% believed normal daily replenishment indents were more prone to errors, possibly due to their repetitive and predictable nature.

11. In your experience, which category do you find more prone to wrong indents?

134 responses



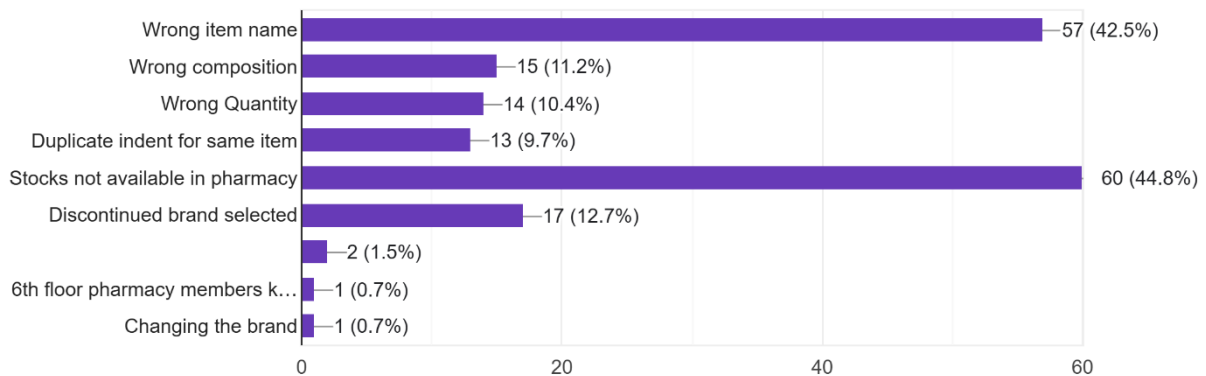
Key Findings: Category Most Prone to Wrong Indents

- 38.8% of nurses feel medicines (like tablets, injections, IV fluids) are more prone to errors, possibly due to confusion in brand/generic names and dosage variations.
- 29.1% responded “Both equally,” indicating that mistakes are common across both medicines and surgical items.

- 17.2% were not sure, reflecting a lack of awareness or monitoring of indent errors by item type.
- Only 14.9% pointed to surgical items, showing fewer issues in items like syringes, catheters, and gloves—possibly due to easier identification.
- The responses emphasize the need to focus training and system improvements particularly on medicine-related indenting.

12. What is the most common type of wrong indents you have seen or made?

134 responses

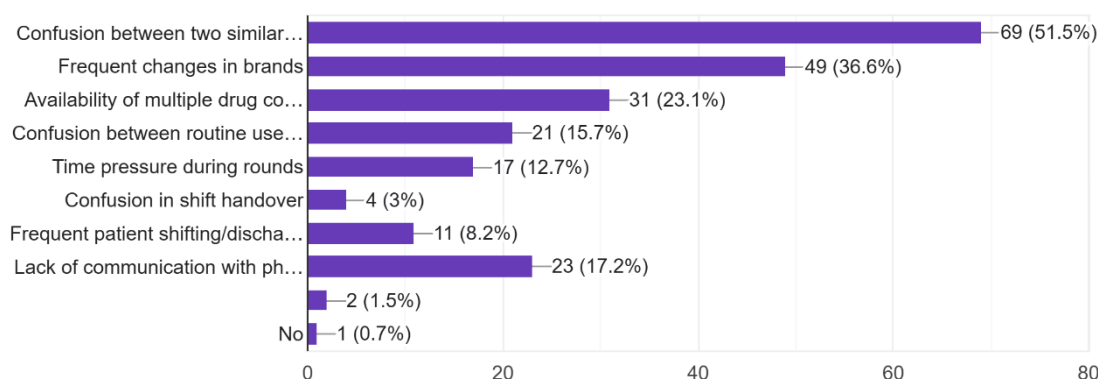


Key Findings: Most Common Types of Wrong Indents

- Stocks not available in pharmacy (44.8%) was the most reported issue, showing that nurses often place indents for out-of-stock items—likely due to outdated or inaccurate stock visibility in the system.
- Wrong item selection (42.5%) ranked second, indicating confusion with similar-sounding names or unfamiliar product codes.
- Other issues like discontinued brand selection (12.7%) and wrong composition (11.2%) also occurred, reflecting the need for better communication about updated formularies and training on product variants.
- A small percentage (1%) reported brand changes during indenting, showing minimal awareness or control over pharmacy brand substitutions.

13. As per your experience what might be the reason for wrong indents?

134 responses



Key Findings: Perceived Reasons for Wrong Indents

- The leading cause (51.5%) was confusion between two similar items, highlighting the challenge of distinguishing look-alike/sound-alike medicines and items in the system.
- Frequent changes in brands (39.6%) was another major contributor, suggesting a lack of timely communication from pharmacy or system updates about brand substitutions.
- Multiple drug compositions (23.1%) and routine-use item confusion (15.7%) point toward knowledge gaps and unfamiliarity with specific product details among nursing staff.
- Factors like time pressure during rounds (12.7%) and frequent patient shifts or discharges (8.2%) reflect how workflow stress can impact accuracy in indenting.
- A notable 17.2% also cited lack of communication with pharmacy staff, emphasizing the importance of strengthening interdepartmental coordination.

Key Findings (3–5 Points Summary)

1. **Brand and Name Confusion:** Nurses highlighted that identical or similar brand names (e.g., multiple brands for the same drug) often led to selection errors.
2. **Stock Display Errors:** The system sometimes showed incorrect or outdated stock levels, prompting staff to indent unavailable items.
3. **Limited Knowledge of Item Codes:** Many nurses were unfamiliar with technical item codes or brand-specific names listed in HMIS.
4. **Communication Gaps:** Lack of proactive communication between pharmacy staff and nurses was a recurring concern.
5. **Time Pressure and Emergency Situations:** In emergency scenarios, staff reported hurried indenting without full verification, increasing the chance of error.

Challenges Faced During the Project

1. **Data collection was slow** due to nurses' busy schedules.

2. **Open-ended answers** were time-consuming to interpret.
3. **No access to HMIS data**, so analysis relied only on survey.
4. **Inconsistent understanding** of “wrong indent” among nurses.
5. **Had to adjust with hospital protocols** during data collection.

Recommendations

- **Improve Communication:** Regular interaction between pharmacy and nursing staff to clarify brand and item availability.
- **Standardized Item Naming:** Avoid multiple names for the same item; standardize with commonly known terms.
- **Induction and Refresher Training:** Conduct regular training on HMIS navigation, brand names, and indent protocols.
- **Visual Aids/Checklist:** Use printed guides or system-integrated checklists to avoid confusion in similar drug names.
- **Real-Time Stock Update:** Ensure system shows up-to-date stock to avoid indenting out-of-stock items.
- **Generic indents** – Go for general medicine indenting

Conclusion

Wrong indenting in critical care isn't just a technical issue—it reflects a communication and training gap between systems and people. Through this project, nursing staff have shared candid feedback highlighting practical problems and solutions. Bridging system design with real-time human needs and clear communication could significantly reduce these errors and improve the quality of patient care.

Project Title:**"Exploring EMR vs CPOE-Based Indenting in Critical Care: A System Analysis and Perception Study"****1. Introduction:**

In today's fast-evolving healthcare environment, technology is playing an increasingly critical role in streamlining clinical workflows, improving patient outcomes, and reducing human error. One such advancement is the use of Electronic Medical Records (EMR) and Computerized Physician Order Entry (CPOE) systems for medication and consumable indenting in hospitals.

However, as digital systems become the backbone of hospital operations, understanding how effectively they are used by different stakeholders — particularly doctors and nursing staff — is vital. In critical care settings, where timely and accurate orders are crucial, any gap in system usage or understanding may result in delays, wrong indenting, or medication errors.

This project focuses on assessing the difference in indenting patterns between doctors (using EMR) and nursing staff (using CPOE), while also capturing doctors' perceptions and challenges through a structured survey.

2. Project Objective:

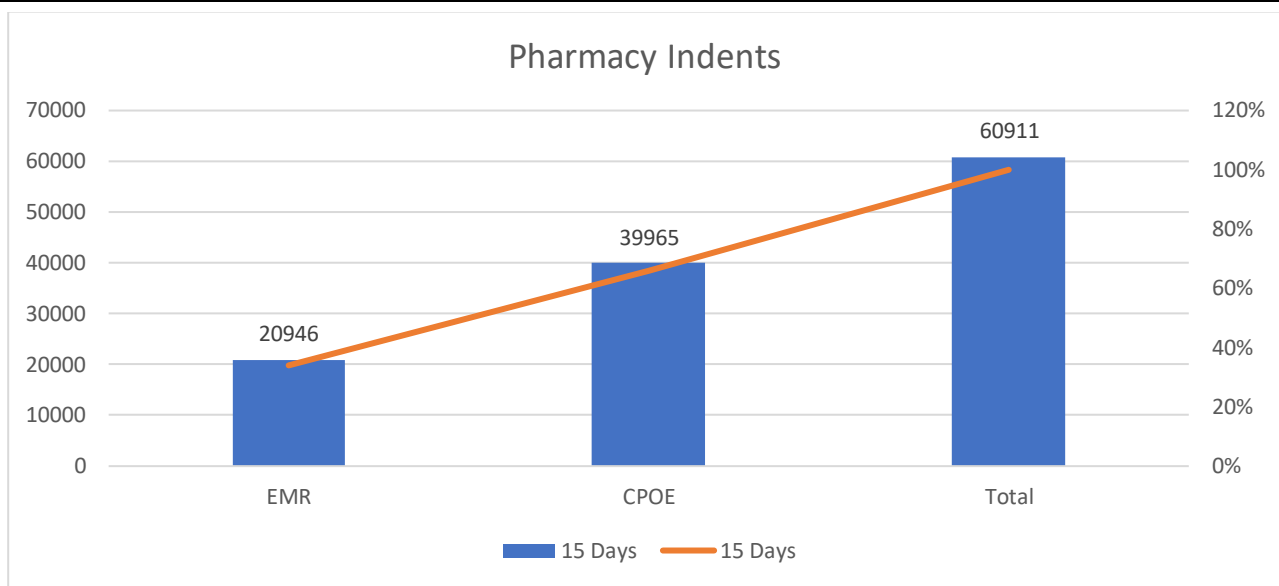
- To analyse indenting trends between EMR (doctor-led) and CPOE (nursing-led) in critical care units.
- To assess the doctors' perceptions, ease of use, and challenges associated with EMR-based indenting.
- To suggest actionable recommendations for improving accuracy and adoption of EMR systems in high-dependency areas.

3. Methodology:

- Quantitative Data Source: System-based pharmacy indent data was collected for a period of 15 days, categorizing indent origin as either EMR (doctor) or CPOE (nursing/others).
- Qualitative Data Source: A perception-based Google Form survey was circulated among doctors working in critical care areas to gather insights on their experience with EMR-based indenting, key difficulties faced, and improvement suggestions.

4. Data Interpretation

The system-based analysis revealed:



Indenting - Doctor vs Nursing Staff (EMR vs CPOE)

- EMR Indents: 20,946 indents were raised using the doctor's login credentials.
- CPOE Indents: 39,965 indents were made using nursing staff or other logins.
- Total Indents: Combined, there were 60,911 indents over the 15-day study period.

Interpretation:

Despite EMR being available for doctor use, more than 65% of indents were still being generated by nursing staff using CPOE. This may reflect either a lack of familiarity, convenience issues, time constraints, or system-related barriers faced by doctors in initiating orders themselves.

5. Key Findings from Doctor's Perception Survey:

- System Usability: Many doctors reported that the EMR interface is not intuitive and lacks flexibility during emergencies.
- Time Constraints: Indenting via EMR is seen as time-consuming, especially during peak duty hours or critical interventions.
- Role Delegation: Indenting is often delegated to nursing staff due to workflow convenience, leading to underutilization of the EMR by doctors.
- Training Gaps: Several respondents indicated that initial EMR training was insufficient or outdated.
- Fear of Errors: There is concern about the potential for wrong selections due to similar-looking drug names or prefilled templates.

6. Challenges Observed:

- Discrepancy between the intended user (doctor) and actual user (nursing staff) of EMR.
- Over-reliance on CPOE by nursing staff, leading to accountability diffusion.
- Limited real-time tracking of indent origin, increasing the scope for human error.

- Perceived complexity of EMR platform compared to traditional prescription methods.
- Lack of ongoing refresher training or user feedback loops.

7. Recommendations:

1. **User-Friendly Design:** Simplify the EMR interface with clinical logic-based autosuggestions, especially for frequently used items.
2. **Refresher Training:** Conduct periodic EMR training sessions for medical officers, with a focus on updates and error prevention.
3. **Workflow Integration:** Integrate EMR seamlessly with daily rounds and protocols to encourage usage during patient assessments.
4. **Error Tracking Dashboard:** Implement a dashboard that highlights frequently made indenting errors and prompts real-time alerts.
5. **Feedback Mechanism:** Create a two-way communication loop where doctors can report usability issues directly to IT or clinical informatics teams.
6. **Policy Enforcement:** Establish accountability protocols where primary orders, especially for critical medications, are expected to be raised via the doctor's login.
7. **Incentivization or Recognition:** Motivate proper EMR usage by recognizing departments or units with consistent compliance.

8. Conclusion:

The study revealed a significant disparity between the intended and actual usage of EMR systems for pharmacy indenting in critical care areas. While doctors recognize the importance of EMR in enhancing patient safety and transparency, practical challenges such as interface complexity, time limitations, and systemic workflow pressures have hindered its full adoption.

By blending system-level data with perception-based feedback, this project provides a holistic understanding of EMR utilization and sets the foundation for targeted interventions. Ultimately, addressing these challenges can improve medication safety, reduce errors, and optimize the digital transformation journey in hospital settings.

Compiled Internship Report

1. Activities Done

- Joined the Operations department and completed onboarding, including HR documentation and hospital orientation.
- I understood departmental structure and services through floor-wise walkthroughs covering OPD, IPD, Emergency, Pharmacy, ICU, and support services.
- Observed Executive OPD to analyze workflow efficiency, patient expectations, and operational differences from the General OPD.
- Gained practical exposure to the admission process, patient registration, interdepartmental communication, and patient counselling.
- Initiated and led a focused project to study the conversion of OPD estimates to IPD admissions across three OPD zones.
- Worked alongside the estimation team to understand cost breakdowns, consultant-wise variations, insurance implications, and ward-specific package planning.
- Collaborated with the insurance desk to understand insurer requirements, pre-authorization processes, and financial approvals.
- Participated in discharge planning, comparing planned vs. unplanned discharges and mapping turnaround time delays.
- Rotated through ward, OT, ICU, Cath lab and emergency pharmacies to understand indenting, stock verification, GRN handling, overcome daily challenges and SAMYAT coordination.
- Conducted department-wise consumption analysis, especially for phlebotomy and radiology (contrast material consumption).
- Designed and conducted a nursing survey on common indent errors and delivered training sessions on critical care pharmacy SOPs.
- Conducted interviews with doctors to understand challenges in EMR-based indenting for consumables and medications.
- Compiled and analyzed discharge data of patients over the last six months for TAT patterns and departmental performance.

2. Linking Theory (Classroom Learning) with Practice

- **Principles of Management:**
 - Applied concepts such as hierarchy, delegation, and coordination during pharmacy management and discharge bottleneck analysis.

- Understood real-time implications of administrative delays and inefficient delegation in high-pressure departments.
- **Demography & Epidemiology:**
 - Analyzed trends of cardiac patients' age, comorbidity, and admission rates to understand demand for critical care and OPD estimates.
 - Used epidemiological data to support projections in OPD-to-IPD conversions.
- **Health Economics & Hospital Finance:**
 - Explored pricing models for insurance vs. cash packages and used cost-effectiveness principles to assess patient acceptance of estimates.
 - Observed budget constraints in patient decision-making and reimbursement scenarios.
- **Essentials of Hospital Services:**
 - Understood hospital zoning, service standards, patient flow architecture, and emergency preparedness in daily rounds.
 - I identified the need for SOP adherence and regular review during patient movement.
 - Applied classroom learnings on hospital zoning, patient pathways, and service classification to understand the real-time flow between diagnostic, therapeutic, and supportive departments.
 - Understood hospital zoning, service standards, patient flow architecture, and emergency preparedness in daily rounds.
 - Identified the need for SOP adherence and regular review during patient movement.
- **Marketing Management:**
 - Investigated patient behavior and preferences in choosing Executive OPD based on perceived value and comfort.
 - Noted how service branding and hospital reputation influenced patient loyalty and service uptake.
- **Business Communication:**
 - Applied interpersonal communication skills while interacting with patients, nurses, and consultants across departments.
 - Utilized structured presentation and report-writing techniques during survey feedback and training sessions.
- **Digital Health & EMR:**
 - Explored EMR systems (ATHMA) and patient-facing platforms (NH Care app) for integration challenges.
 - Identified system inefficiencies and user experience issues through field-level interaction with doctors and pharmacists.
- **Research Methodology:**
 - I conducted two cross-sectional studies involving questionnaire design, data collection, thematic analysis, and interpretation.

- Developed hands-on expertise in presenting findings, drawing inferences, and drafting improvement recommendations.
- **Generic Exposure:**
 - Developed observational skills for identifying service delivery gaps.
 - Improved critical thinking, adaptability, and teamwork by rotating through varied hospital departments.

3. Gaps Identified in the Working Area

A. OPD and Front-End Services

- Limited awareness and support for digital processes among elderly and rural patients.
- Lack of multilingual communication boards and assistance desks.
- Duplication of MRNs due to improper validation and lack of mobile linkage.

B. Estimation and Admission

- Estimates provided without clarity on inclusions, exclusions, or insurance limitations.
- Absence of a centralized follow-up mechanism for patients advised for surgery.
- Delays in generating estimates during peak hours due to manual dependencies.

C. Discharge Process

- Lack of timely discharge communication among stakeholders led to waiting time extension.
- Pharmacy clearance and billing delays extended discharge TAT significantly.
- Lack of standardized counselling protocols during discharge for elderly or semi-literate patients.

D. Pharmacy and Inventory Management

- High frequency of wrong and duplicate indents, especially during ICU emergencies.
- Missing checks on expiry dates, manual logbook errors, and delayed return process.
- Overlapping responsibilities between nursing and pharmacy staff during item transfer.

E. EMR and Operational Communication

- Doctors faced difficulties in EMR-based indenting due to unfriendly UI and limited search features.
- New and junior staff lacked hands-on orientation on EMR or pharmacy module.
- Hierarchical communication gaps discouraged junior staff from raising operational issues.

4. Suggestions for Improvement

A. Patient Guidance and Digital Awareness

- Provide digital helpdesks and walkthroughs using multilingual kiosks and support staff.
- Promote NH Care app usage via posters, digital boards, and patient education drives.

B. Admission and Estimation Process

- Integrate estimation modules within HIS to enable real-time automation and package visibility.
- Link mobile numbers to MRNs for verification and data continuity.
- Track advised surgeries through a centralized dashboard with reminder alerts.

C. Discharge and Patient Communication

- Define standard discharge preparation steps through visual and printed checklists.
- Assign departmental discharge TAT benchmarks and review deviations weekly.
- Train nursing staff in simple language counselling techniques for discharge instructions.

D. Pharmacy and Inventory Optimization

- Implement QR/barcode scanning for indent issues, validation, and returns.
- Conduct pharmacy orientation for all ICU and emergency nursing teams.
- Set up digital dashboards for tracking pharmacy complaints and resolution timelines.

E. EMR and Team Capacity Building

- Redesign EMR user interface based on doctor feedback, including filter and auto-suggest features.
- Introduce structured onboarding for doctors and nurses on EMR-based workflows.
- Establish regular anonymous feedback forums and peer-to-peer learning sessions.

Reporting Format (Weekly) - 01

Name of the Organisation: Narayana Institute of Cardiac Sciences, Bangalore

Area/ Department/ Project of Summer Internship Program: Operations department

Name of the Student: Chandan Jha

Roll no: IIHMR-U/01/2024-26/1929

Stream: MBA (Hospital and Health Management)

Week no: 01 **From:** 12th May 2025 **to** 17th May 2025

Activity Done	1) Completed the HR documentation process and joined as an operations intern in NICS under the mentorship of Kiran sir. 2) Understood the organizational layout and services available across different floors of the cardiac building. 3) Gave more time in exploring and understanding the functionality of executive OPD. 4) Observed and interacted with hospital staff at different levels to know what makes executive OPD different from normal OPD and how they manage the patient flow from taking appointments to delivering the needed OPD services. 5) Interacted with Patients and attendants to know why they opted for executive OPD over normal OPD and how it helped them.
Linking theory (Classroom learning) with practice at your organisation	1) Applied theoretical knowledge of classroom to understand the layout of the organization, patient flow and management of executive OPD services. 2) Observed the hospital operations and OPD management protocols, bridging the gap between theoretical knowledge and real time hospital executions. 3) Witnessed how digitalization (Use of KIOSK, NH care – consult a doctor app, and use of ATHMA website) helps in reducing queue, appointment scheduling and overall operational management in different aspects of hospital services.
Gaps identified on the working area.	1) Limited digital display or guidance specially for first time visiting patients leads to frequent inquiry at the reception/ help desk. 2) Language barrier leading to wastage of time in explaining again. 3) Generation of multiple MRN for the same patient leading to difficulty in finding the medical records of the patients. 4) A lot of patients especially old age patient wants to avail the services and records physically. They lack trust and interest in digitalization. 5) Delayed in consultation due to busy schedule of doctors in operation theatres and other areas.

Suggestions for improvement	1) At the entrance itself, a brief about how to avail fast services using the available digital technology methods can be explained to the patients to avoid crowds at the reception desk. 2) Time to time training to the staff about the commonly used languages by the patient side can be given. 3) While doing the registration, reconfirmation of the patient ID interlink with the mobile number should be assured. 4) Old age patients should be taught about the importance of digitalization and how that will help to both patient and the hospital. 5) Appointment timing and OT schedule timing should be different to reduce the waiting period in doctor consultation.
Plan for the next week	1) Explore admission counter in depth. 2) Come with the project and start working on the developed project.

Reporting Format (Weekly) - 02

Name of the Organisation: Narayana Institute of Cardiac Sciences, Bangalore

Area/ Department/ Project of Summer Internship Program: Operations department

Name of the Student: Chandan Jha

Roll no: 1929 **Stream:** MBA (Hospital and Health Management)

Week no: 02 **From** 19th May 2025 **to** 24th May 2025

Activity Done	1) Observed daily operations, patient flows and the routine challenges faced by hospital staff and the patient and their relatives. 2) Figured out the difference in Consultation charges, investigation charges, and other Charges based on previous week experience from the executive OPD in view of fast-track services. 3) Spent more times at admission desk and learnt the steps in admission procedure, needed documentation, billing and the inter departmental coordination's to enhance the operational efficiency of both OPD and IPD services. 4) Started my 1st summer internship project titled Cardiac OPD to IPD conversion in view of enhancing the operational efficiency of the hospital. 5) Tracked the selected Doctor consultations and listed the Procedure/ Surgery advised by them 6) Wrote my Swayam exam (Predictive Analytics) yesterday, it was moderate.
Linking theory (Classroom learning) with practice at your organisation	1) As per the classroom learnings, found the alignment of OPD and admission desk near the front gate. But found bidirectional flow of patients all the time. 2) Applied the concepts of Principles of Management, Health economics and essential of hospital services to know the functioning of OPD, bottleneck and patient's movement inefficiencies. 3) Noticed the importance of queue management and turnaround times at multiple levels from the time of registration till the patient goes home satisfactorily for the proper utilization of hospital services. 4) Understood real time implications of patient experience management taught under the module human resource management.
Gaps identified on the working area.	1) Narayana Health is known as the leading hospital in term of digitalization. But I realised that patients were unable to utilize it in most of the cases due to lack of display boards for the available services through digital methods in OPD.

	2) KIOSK, NH care app and other digital methods were helpful for the patients for taking online Doctor appointment, paying bills and others. But delayed in Dr. consultation and investigations continues. 3) Sometime, there was delayed in availing IPD beds due to communication gaps in OPD - IPD. 4) There is no record keepings of patient advised for Surgery/Procedure by the respective consultants/ hospital. 5) Few patients were given the dates of admission without confirming the financial consequences which reduced the operational inefficiency of the hospital.
Suggestions for improvement	1) Display of boards/showing the available services in OPD which can be assessed by the patients directly. Patient can be also informed about the same at the entrance of OPD area to make the services easily assessable and give the benefits of digitalization. 2) Doctor appointment should be given based on scheduled OT timings for reducing the waiting time in doctor consultation and in time investigations. 3) Availability of IPD beds should be confirmed before starting the admission procedure to avoid delays in OPD to IPD transfer. 4) Database for the advised surgery/ procedure should be automated from the time of consultation itself to know the real time OPD to IPD conversion. 5) Crosschecking of pre-approval by the insurance companies for the surgery should be confirmed and proper counselling of financial consequences should be given to patients.
Plan for the next week	1) To explore the paediatric cardiac OPD/ estimate department. 2) In view of my OPD to IPD conversion rates and its consequences project - Check the estimates of patients who were advised for the surgery/ procedure in last week.

Reporting Format (Weekly) - 03

Name of the Organisation: Narayana Institute of Cardiac Sciences, Bangalore

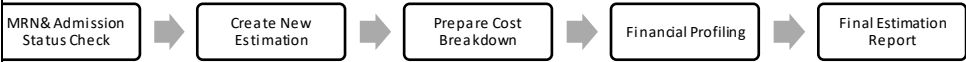
Area/ Department/ Project of Summer Internship Program: Estimate / Operations department / OPD to IPD conversion

Name of the Student: Chandan Jha

Roll no: 1929

Stream: MBA (Hospital and Health Management)

Week no: 3rd **From:** 26th May 2025 to 31st May 2025

Activity Done	- Spent this week in estimate (Package) department of NICS. - With the Estimate manager understood the process and workflow of Estimation Department. ➤ For Estimation Department the process includes  <pre> graph LR A[MRN&Admission Status Check] --> B[Create New Estimation] B --> C[Prepare Cost Breakdown] C --> D[Financial Profiling] D --> E[Final Estimation Report] </pre> - Observed the breakdown of Estimation Preparation, understood how surgery type, consulting doctor and ward category affect the total estimated cost. - Compared Insurance Package and cash packages, understood differences in package codes (depending on types of insurance, cash payment and risk factors involved in surgery) and cost implications for different insurers and out of pocket expenditure. - Learnt the benefits of I pass scheme (closed package) while taking the estimates. - Learned Negotiation Technique, observed how staff handled patient objections and clarified hospital policy. - Did the follow up of patients for the admission who took estimations earlier.
Linking theory (Classroom learning) with practice at your organisation	- Understood the real implications of pricing strategy and the negotiations practises which was covered under module Health economics and financing, Principle of management and organizational behaviour which matters the most in OPD to IPD conversion. - Related health policy, costing theory and out of pocket expenditure in real world estimations and patient decisions. - Experienced operational and behavioural communication influencing the conversion and patient satisfaction. - Observed the practical aspects of business communication and service delivery process. - Saw the use of HIS and excel sheets for recording estimations data in view of financial management and reviewing revenue generation which was aligned

	with the concepts of Health accounting, financial management and digital health.
Gaps identified on the working area.	1) Unavailability of integrated HIS to avail estimate packages through online / home-based services. 2) Delayed in OPD to IPD conversion due to lack of awareness among patients for different types of insurance and estimations. 3) Difference in packages for the similar surgery based on the affordability of patients creates a disagreement even after taking the packages. 4) Lack of real time alert for estimation of emergency patients. 5) Time delays in estimation preparation during the high volume OPD days. 6) There is no direct mechanism of patient feedback for the response of given estimations.
Suggestions for improvement	1) Automation of estimate generation and integrate it with HIS. 2) Installation of direct feedback system for the package department. 3) Integration of real time alert for emergency patient's emergency 4) Can the same package be given to similar type of surgery against their core integration? 5) Proper counselling of patient at the time of estimation.
Plan for the next week	1) Spend time in insurance department 2) Work on my project, follow up patients and needed data.

Reporting Format (Weekly) - 05

Name of the Organisation: Narayana Institute of Cardiac Sciences, Bangalore

Area/ Department/ Project of Summer Internship Program: Discharge desk /Operations/ OPD to IPD conversion

Name of the Student: Chandan Jha

Roll no: 1929 **Stream:** MBA (Hospital and Health Management), section A

Week no: 05 From: 08th June 2025 to 14th June 2025

Activity Done	1) Understood the standard operating procedures (SOPs) for discharge process across cash, Insurance/TPA and corporate cases. 2) Observed the workflow difference in planned and unplanned patient's discharge. 3) Interacted with nursing staff regarding inpatient returns, medication explanation and patient's counselling about probable risk, Do's and Don'ts, and follow up counselling before the discharge. 4) Reviewed the discharge process in special cases like LAMA, MLC and death scenario. 5) Monitored average TAT for discharge process, from discharge intimation till the patients goes out of hospital premises. TAT for cash patient – 2-3 hrs, TPA/Corporate- 5-6 hrs. 6) Noted challenges in both planned and unplanned discharges, especially in interdepartmental coordination for the documentation, returns and billing clearance from the departments / insurance companies.
Linking theory (Classroom learning) with practice at your organisation	1) Application of lean six sigma (DMAIC) for Identifying root causes for delayed discharges. 2) Related hospital policies and SOPs on the real implementation on the ground. 3) Observed patients' dissatisfaction due to extended delays in discharge process, especially after the preparation of discharge summary which was relatable to patient centric models taught in the classroom. 4) Observed the benefits of SOPs standardization and feedback on regular basis for improving the hospital services and daily operations.

Gaps identified on the working area.	1) Poor patient communication- Patient and their relatives were often found confused steps, delays and waiting times. 2) Inconsistent discharge intimation due to sudden discharge orders by the consultant 3) Difficulty in understanding the discharge counselling by the patient and their relatives due to language barrier. 4) Delays in discharge process due to consultants busy with the surgical procedures. 5) Late IP returns lead to delayed in pharmacy clearance, ultimately delays the entire discharge process.
Suggestions for improvement	1) Time to time counselling of the patient in his / her preferred language. 2) On time discharge intimation process 3) Recruitment of nurses and coordinators who can communicate in multiple language. 4) Create a standard checklist which can be given to patient party in advance to the patient party.
Plan for the next week	1) Be the part of supply chain management in NICS 2) Keep working on my project OPD to IPD conversion

Reporting Format (Weekly) - 06

Name of the Organisation: Narayana institute of cardiac sciences, Bangalore

Area/ Department/ Project of Summer Internship Program: Consignment / SCM/ OPD to IPD conversion

Name of the Student: Chandan Jha

Roll no: 1929 **Stream:** MBA (Hospital and Health Management)

Week no: 06 **From:** 16th June 2025 to 21st June 2025

Activity Done	1) Understood the process involved the consignment department within the Supply chain department 2) Observed the inflow and outflow process for consignment stock (mainly implant, stent and grafts) 3) Learned how indenting and consumption mapping is done in the consignment department. 4) Had exposure to vendor coordination, stock verification and good receipt return (GRN) process. 5) Learned documentation process for billing of used item and return process of unused items from the stocks. 6) Did the follow up of my patients for the project OPD to IPD conversion.
Linking theory (Classroom learning) with practice at your organisation	1) Saw the real implication of use of items ➤ First in first out ➤ First expiry first out 2) Linked the classroom learning from Human resource management and business communication for the management for the vendors and coordination among the stakeholders 3) Found the use of negotiations skill taught under principle of management for making the difference in real MRP and the hospital offer to the vendors and the companies for their consumables.
Gaps identified on the working area.	1) Communication gap between the Cath lab staff and consignment department for rarely used items/ newly ordered consumables. 2) Higher waiting period in receiving the items from vendors due to arrival of multiple vendors at the same time.
Suggestions for improvement	1) Scheduling of Cath lab procedures or OT surgeries after the confirmation of availability of new or rarely used items. 2) Scheduling of vendors as per the companies can be implemented.
Plan for the next week	1) Give the final touch followed by analysis of ongoing project. 2) Visit to all the pharmacy stores of the NICS and give more time to any one store. 3) Figure out one project from SCM and start working on that project.

Reporting Format (Weekly) – 07

Name of the Organisation: Narayana institute of cardiac sciences

Area/ Department/ Project of Summer Internship Program: ICU pharmacy/ Supply chain/ OPD to IPD conversion

Name of the Student: Chandan Jha

Roll no: 1929

Stream: MBA (Hospital and Health management)

Week no: 07

From: 23rd June 2025 to 28th June 2025

Activity Done	1. Spent this week in ITU Pharmacy store which supplies both medicine and surgical items to all the AITU & PITU and CCU. 2. Understood the process of pharmacy procurement, indent process, return process and standard timings for the orders delivery based on the normal / emergency indents. 3. Actively participated in evening ICU rounds to know the issues related with pharmacy, do the root cause analysis and suggest improvement plans. 4. Did the project analysis of OPD estimate to IPD admission: conversion analysis and documented key suggestions and trends. 5. Did rounds in all the 5-pharmacy store available in NICS which is serving in patient department (ICU, Ward, Cath lab, OTs, & Hybrid OTs.) 6. Understood the process of drug deviation.
Linking theory (Classroom learning) with practice at your organisation	1. Practical understanding of inventory management, turnaround time, and stock rotation in the pharmacy. 2. Applied classroom concepts of clear communication, intradepartmental coordination, stakeholder responsibility. 3. Observed process lapses in pharmacy & end user and suggested and Implemented protocols changes. 4. Used principle of operational efficiency to identify issues in the indent and return cycle.
Gaps identified on the working area.	1) Inadequate training of junior staff and trainee students in indenting process and returning process. 2) Inconsistent cross checking of medicine and surgical stocks before placing new indents. 3) Observed multiple complaints of multiple indents, wrong indents, confusion in 14hrs medicine and urgent medicine and missing items complaints.

	4) Frequent bypassing of chain of command for urgent supplies and placing wrong indents from the pharmacy store which is not made for them. 5) Complaints of missing/ mismatching signs by the allocated staff at the receiving end.
Suggestions for improvement	1) Implement cross checking of medicine before dispensing from the pharmacy. 2) Make Strict rule for the assigned nursing staff in the ICU to receive the item, confirm the item and put their sign, EC number with the timing on the issue sheet. 3) Develop and circulate quick guide SOP on indenting and return on all the ICU, CCU floors. 4) Implement indenting of generic medicine unless it is specified and cross checked with the pharmacy about that needed brand medicine.
Plan for the next week	1) Complete the final analysis and draft the report of OPD estimate to IPD conversion. 2) Conduct few trainings session for nursing staff based on the common issues related to pharmacy. 3) Start working on analysing the various departmental consumption and how to reduce the consumption 4) Figure out some project from the Supply chain department.

Reporting Format (Weekly) – 08

Name of the Organisation: Narayana Institute of Cardiac Sciences, Bangalore

Area/ Department/ Project of Summer Internship Program: Ward Pharmacy / Supply Chain Management

Name of the Student: Chandan Jha

Roll no: 1929 **Stream:** MBA (Hospital and Health Management)

Week no: 08 **From:** 30th June 2025 to 5th July 2025

Activity Done	1) Spent majority of this week in Ward pharmacy and understood how surgical and medical items are managed to different ward categories of NICS. 2) Continued daily rounds in all the 5 dedicated IPD pharmacy and all the ICU units to observe stocks management at patient side, indenting, receiving and returning handling for problem assessment and providing real time resolution for the problems. 3) Did a comparative study of departmental consumption and the items pharmacy store had issued for the phlebotomy department from Jan 2025 to May 2025 to reduce the departmental consumption. 4) Did the comparison of contrast issued and contrast consumed for CT & MRI in the radiology department to reduce the inventory stocks and number of days. 5) Started a new project on wrong indents in ICU and CCU settings.
Linking theory (Classroom learning) with practice at your organisation	1) Gained hands on experience on data driven decision making by working on departmental consumption of phlebotomy and contrast vs procedural mapping in radiology department linking with digital health. 2) Applied concepts of essential of hospital services and supply chain management (Swayam) to understand the real time inventory flow within a cardiac hospital 3) Used concept of FIFO and FEFO for inventory monitoring.
Gaps identified on the working area.	1) Manual entries were seen in Phlebotomy department, which led to multiple error in the entries and real time syncing with the HIMS. 2) Issued, consumption and inventory contrast details were not matching with the given data. 3) Complaints of multiple wrong indents from all ICU. 4) Multiple/ duplicate entries. 5) Multiple complaints of missing items on indents.
Suggestions for improvement	1) Ensure system wise entries to make less/nil entries error. 2) Introduce alert-based system for repeated/duplicate indents. 3) Train the nursing staff about the changes in item codes time to time. 4) Implement a real time audit in radiology and other department for the issued, consumed and inventories.

Plan for the next week	1) Spend more time in Cath lab pharmacy stores. 2) Work on Wrong indent project 3) Finalize and share the OPD to IPD conversion project poster draft
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Reporting Format (Weekly) – 09

Name of the Organisation: Chandan Jha

Area/ Department/ Project of Summer Internship Program: Cath lab Pharmacy store / Supply Chain Management

Name of the Student: Chandan Jha

Roll no: 1929 **Stream:** MBA Hospital and Health Management

Week no: 09 **From:** 7th July 2025 to 12th July 2025

Activity Done	1) Spent most of the time in Pharmacy dedicated to cardiac emergency department, Cath Lab and CCU. 2) Understood the procurement, storage, indent and dispensing process for Cath lab dedicated pharmacy. 3) Did the audits in the emergency department to check the variations in stock and the expiry items. 4) Conducted routine rounds across all the pharmacy store and Critical care areas available in NICS to know the challenges faced and suggested way to overcome it. 5) Circulated google form titled Nursing survey on wrong indents in ICU and collecting their response. 6) Took a training session for the ICU nursing staff titled standard pharmacy practise in critical care units
Linking theory (Classroom learning) with practice at your organisation	1) Used the classroom learning of research methodology for literature review and question formation for my project cross sectional study on wrong indents. 2) Understood real benefits of classroom PPT presentation while conducting training session in hospital.

Gaps identified on the working area.	1) Emergency staff had limited knowledge about the available pharmacy items in drug cart and crash cart (when to use, expiry date and how to charge and replace it) 2) Observed staff hesitation in asking doubts, resulting in compromised patient care on few occasions. 3) Extra contrast stock in Radiology department, ultimately increasing the inventory days.
Suggestions for improvement	1) Conduct training session for emergency staff about the use of drug cart and crash cart, how to choose items wisely and how to replace the item properly. 2) Do regular audits in radiology to know the exact availability of contrast and other valuable items to keep the stocks as per the inventory days. 3) Conduct some motivational sessions for staff to make them confident in speaking and clarifying the doubts.
Plan for the next week	1) Take the wrong indents data from the back end with support of IT team for my project. 2) Find out the way to do another project on EMR. 3) Continue doing pharmacy store and ICU rounds to reduce the daily challenges. 4) Spend more time in OT pharmacy

Reporting Format (Weekly)

Name of the Organisation: Narayana Institute of Cardiac Sciences, Bangalore.

Area/ Department/ Project of Summer Internship Program: OT Pharmacy / SCM

Name of the Student: Chandan Jha

Roll no: 1929 **Stream:** MBA Hospital and Health Management

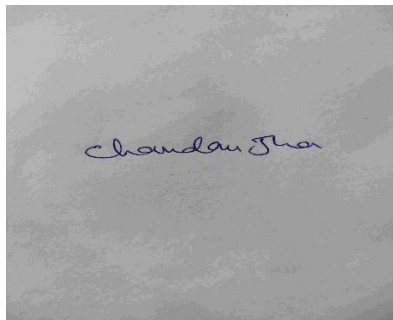
Week no: 10&11 **From:** 14th July to 19th July

Activity Done	1) Spent majority of this week in OT pharmacy to understand daily process and routine challenges. 2) Continued daily rounds in all the 5 dedicated IPD pharmacy and all the ICU units. 3) Created an orientation PPT for the new joiners in SCM, NICS, Bangalore covering all the SOPs and operational guidelines which got appreciated and approval by SCM head. 4) Conducted an observational and comparative study of demo contrast vs regularly used contrast to assess effectiveness, utilization and cost efficiency. 5) Did retrospective study for data analysis of IPD discharges from January 2025 to June 2025 for an additional operations project. 6) Analysed data from nursing survey for the wrong indents 7) Visited Warehouse (Samyat Store) to know their working str. 8) Did departmental visit to biomedical to understand Capex and Opex..
Linking theory (Classroom learning) with practice at your organisation	3) Gained hands on experience on data driven decision making by working on comparative study between contrasts. 4) Real time application of excel knowledge for data analysis and data visualization. 5) Connected most of modules directly or indirectly in orientation ppt.
Gaps identified on the working area.	1) Lack of coordination between few surgeons and OT Pharmacy team resulting in tensed situation. 2) Clinical staff in radiology are not worried about the Departmental consumption and inventory stocks.
Suggestions for improvement	1) Training and monitoring of organizational culture to enhance the communication between staffs and productivity of hospital. 2) Train clinical staff about the use of inventory days and how it impacts the revenue generation of hospital.

Plan for the next week

1) Project briefing to industry mentor

2) Collect the certificate and all.

Signature of the StudentA rectangular box containing a handwritten signature in blue ink. The signature appears to be "Choudhary Shon" written in a cursive style.