

## **SYNOPSIS**

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**TITLE:** ASSESSMENT OF A STANDARDIZED NURSING WARD INVENTORY SYSTEM: A QUALITY IMPROVEMENT INITIATIVE

### **INTRODUCTION:**

Inventory management in hospitals, especially at the ward level, plays a pivotal role in supporting the clinical workflow, minimizing treatment delays, and ensuring patient safety. However, in many hospital settings, inventory systems are fragmented, reactive rather than proactive, and often lack standardization. A standardized inventory system allows for consistent stock levels based on ward-specific needs, improved coordination between pharmacy, nursing, and central stores, and faster response times for replenishment.

The lack of uniform inventory processes has resulted in delays in initiating treatment, particularly in the critical first 30 minutes after patient admission. This time window is vital for establishing IV access, starting fluids, and sending preliminary investigations, which are key indicators of emergency response efficiency and quality care.

This Quality Improvement Project (QIP) aims to assess a ward-wise, standardized inventory model backed by structured audit, staff training, and continuous monitoring by defining clear standards (e.g., 100% inventory fulfillment, <30 minutes treatment initiation, defined pharmacy TAT).

**PROBLEM STATEMENT:** Delay in first step of treatment due to inefficient ward inventory systems has led to suboptimal patient care and administrative inefficiencies. There is a need to assess and revamp current inventory management practices to ensure prompt and consistent availability of essential medical supplies during patient admissions.

### **OBJECTIVES:**

- To assess the current inventory management practices in hospital wards as per requisition
- To ensure that every new admission in the hospital receives first step of treatment (Cannulation, Fluid start, Preliminary investigations) within first 30 minutes of admission.

- To identify factors behind delay (if any) to implement the standard practice

## **MATERIAL AND METHODS:**

**STUDY DESIGN-** Cross sectional study

**SETTING-** Mahavir Jaipuria Rajasthan Hospital, Jaipur

### **STUDY POPULATION-**

**Inclusion Criteria:** All new admissions of non-critical wards (B2, B5, C2, MDU-A, B, C, E)

**Exclusion criteria:** All In-patients, OPD patients, new admissions of critical wards, Day care patients, Chemo patients

**DATA COLLECTION TOOLS-** Primary Data through direct observation using audit tool

**DURATION OF STUDY-** 10<sup>th</sup> April- 31<sup>st</sup> May 2025 (Audit cycle 1)

**SAMPLE SIZE-** 100

**SAMPLING TECHNIQUE-** Simple Random Sampling

### **DATA COLLECTION PROCEDURE-**

- Documentation of time of cannulation, initiation of IV treatment, and sample collection for preliminary investigations
- HIS requisition will be reviewed to assess availability and request-response time for inventory
- Staff will be interviewed to evaluate familiarity with inventory protocols and perceived challenges

### **DATA ANALYSIS PLAN:**

- Comparative charts to visualize outcomes across wards
- Descriptive statistics for inventory fulfillment and treatment initiation time
- Thematic analysis for qualitative evaluation

## **ETHICAL CONSIDERATIONS:**

- Organization's approval-  
Prior to the commencement of the study, necessary approvals will be obtained from the hospital's Quality Department, though this is a quality improvement initiative and not clinical research.
- Confidentiality and Data Privacy-  
Data will be stored securely and accessed only by authorized personnel involved in the project.

- **Non-Maleficence (Do No Harm)-**  
The project involves process improvements and does not interfere with standard patient care. No additional procedures or risks will be imposed on patients.
- **Respect for Autonomy and Roles-**  
Feedback and suggestions from the nursing and pharmacy teams will be actively encouraged and respected.
- **Transparency-**  
All stakeholders including ward in-charges, pharmacy staff, and central store personnel will be informed about the objectives, methodology, and implications of the project.

#### **IMPLICATIONS OF RESEARCH:**

The findings of this study can help hospital administrators optimize inventory systems across wards, reducing treatment delays and improving patient outcomes. The model may be replicable across other departments and institutions for broader impact on healthcare quality management.

#### **REFERENCES:**

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- **Kumar, R., & Sharma, R.** (2022). Improving hospital inventory efficiency: A Lean Six Sigma approach. *Journal of Health Organization and Management*, 36(1), 101–117.