Study on Physical Stock Variances and Its Impact on Delivery of Quality Patient Care Solutions

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Brief History and Description:

Apollo Hospitals, founded in 1983 by Dr. Prathap C. Reddy, is India's leading private healthcare provider. With over 70 hospitals and cutting-edge technology, it offers world-class care across specialties. Apollo pioneered innovations like telemedicine, robotic surgery, and digital healthcare, making quality care accessible to millions.

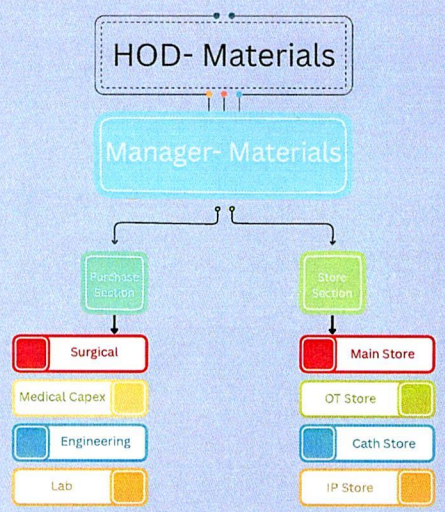
Vision:

"To touch a billion lives."

Mission:

"To bring healthcare of international standards within the reach of every individual. We are committed to the achievement and maintenance of excellence in education, research and healthcare for the benefit of humanity.

Supply Chain Department Structure:



Theoretical Learning and Practical exposure

Theoretical Learning (IIHMR)

- Conflict resolution and negotiation skills
- Studied Inventory technique such as ABC (Always, Better, Control) and FSN (Fast, Slow and Non Moving)
- FSN classification taught us to categorize inventory into Fast, Slow, and Non-moving items based on usage frequency for better stock control.

Practical Exposure (Apollo Hospitals)

- Used in contract negotiation between Green Park and Apollo Hospital
- Applied in identifying High value and low value
- In the hospital, it helped identify slow and non-moving items for clearance or vendor return, optimizing space and reducing holding costs.

Internship Title:

Study on Physical Stock Variances and Its Impact on Delivery of Quality Patient Care Solutions
Internship Site: Apollo Hospitals, Bannerghatta Road, Bangalore
Duration: May – July 2025
Department: Materials Management

Objectives:

- The aim of this project was to reduce the variance between physical quantity and system quantity of the product so that stockouts, overstocks and other discrepancies can be prevented and corrected.
- By analyzing these issues and implementing corrective measures, the project sought to enhance the overall efficiency of the supply chain, ensure accurate billing, and support the delivery of quality patient care.

Methodology:

- Data Collection & Variance Analysis: Collected product wise stock data and compared physical stock with system data to identify and categorize variances.
- Implementation of Bin Cards: Introduced manual bin cards for selected products and trained staff for accurate, real-time stock tracking.
- Corrective and Preventive Measures: Such as continous use of Bin Card, Double check before supply and night shift control etc were taken

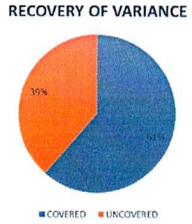
Implementation

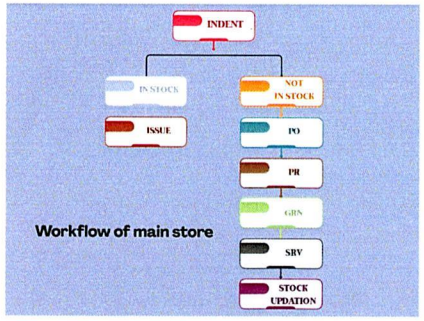
- To improve inventory control and reduce variances, BIN CARDS were introduced for selected high-value and frequently used items in the main store.
- These cards were placed at each product's storage location and updated manually every time stock was received or issued.
- This ensured real-time tracking of physical quantity and acted as a cross-verification tool against the system quantity.
- Store staff were trained to maintain bin cards consistently, which helped in identifying errors early, improving accountability, and supporting accurate stock management

Key Findings:

- Significant variance was identified between the physical and system stock in the main store, mainly due to products being issued in the system but not physically supplied. and Contra.
- Audited 10 products and found a total variance of 77 units in the month of May-15 of which in the month of Jun- 15 and Jul-15 :
- 51 units (61%) were covered
- 26 units (39%) remained uncovered

Visual Insights:





Preventive Strategy

Focus Area	Preventive Strategy
Controlled Issuance	Make issuance possible only after physical confirmation and entry in both system and bin card.
Night Shift Control	Enforce mandatory phone call and record entry for any night-time emergency issue.
Double Verification	Establish SOP for two-person cross-check before dispatch
Physical Tracking Support	Continue the use of bin cards for visual and record-based verification.

SWOT ANALYSIS

S Strength

- Established partnerships that ensure reliable and timely supply.
- Use of modern tools like ERP systems, supply chain management software, and data analytics for better visibility and control.

W Weakness

- Dependency on Key Suppliers for OEM(Original equipment manufacturer)
- Limited space. Warehouses have limited physical space, which can restrict storage capacity and product management during peak-demand periods.

O Opportunity

- Implement digital vendor entry and real-time product tracking through an integrated barcode system.
- Ensure full-scale adoption of bin cards both manual and digital for enhanced stock visibility and physical inventory control across all stores.

T Threat

- Stock variance can result in shortages of essential items or overstocking of products nearing expiry
- Frequent changes in procurement norms, digital health records, or public-private partnerships can increase compliance burdens.

Challenges Faced:

- Vendors were required to move repeatedly between the security checkpoint and the main store to obtain approvals for product entry
- FIFO principles were not followed; multiple batches and packs were opened at once.
- System and physical stock mismatches in the OT store due to past year errors.
- Non-sterile products used for multiple patients were billed fully to one patient.
- Faced communication barriers with some vendors due to language issues.

Major Learnings:

- Even small variances in physical and system stock can lead to major disruptions in patient care.
- Real-Time Implementation of FIFO ensured older stock is consumed first to prevent wastage, especially for short-expiry medical items.
- Procurement and vendor management
- Supplying receiving and storage of products
- Various inventory techniques or theory such as ABC,FSN, FIFO helped in understanding the inventory

Suggestions for Improvement

- Use bin cards consistently for every product.
- rain store and OT staff regularly on SOPs.
- Create protocol for night shift staff to notify main store in-charge.
- Maintain a physical logbook for after-hours stock issues.
- Introduce double-check by two staff members during issuing.
- Perform weekly or bi-weekly physical stock reconciliation.