

SYNOPSIS FOR DISSERTATION



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BY

SOUMAK BANERJEE

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Title:

Challenges and Solutions to Multiple Indents Generation in a Hospital Settings.

Introduction:

In inpatient hospital settings, timely medication delivery is critical. However, operational inefficiencies, such as multiple indent generation—repeated requests for the same medication or supply item—can compromise this. These redundancies often arise from manual or semi-digital systems lacking visibility into previously raised indents, poor communication between shifts, and unclear standard operating procedures (SOPs). In high-dependency wards and critical care units, staff may re-raise indents under urgency without checking the status of past ones, leading to overstocking, duplicate work, and potential medication waste.

Studies indicate that a significant percentage of ward nurses use manual indenting techniques without adhering to hospital policy. In contrast, hospitals with automated dispensing systems, such as Automated Dispensing Cabinets (ADCs), have reported substantial reductions in multiple indenting due to real-time medication visibility and process automation.

Aim

To evaluate the challenges associated with multiple indent generation in hospital pharmacy systems and propose sustainable solutions to reduce duplicates, enhance operational efficiency, and improve patient care delivery.

Objective

Determine the reasons and frequency of multiple indent generation.

Identify operational challenges leading to duplicate indent generation.

Assess the impact of multiple indents on patient care and pharmacy operations.

Evaluate staff training levels, confidence in Hospital Management Information Systems (HMIS), and the indenting process.

Provide recommendations to streamline the indenting process.

Review of Literature

While extensive research exists on pharmacy turnaround time, inventory control, and medication supply systems, studies specifically addressing the issue of multiple indent generation are limited. This gap reflects a deficiency in operational insights, particularly considering the significant consequences of duplicate indenting on staff workload and medication delays.

Shukla et al. (2023): A study in a tertiary care hospital in Uttarakhand found that 94% of employees did not adhere to institutional indenting procedures, with manual systems used extensively. Primary causes for duplicate and incorrect indenting included inadequate training, over-reliance on manual records, and recurring staff transfers.

Shroff et al. (2019): In a South Indian tertiary care hospital, research identified factors responsible for delayed medicine delivery, such as ineffective dispatch logistics, excessive inquiry calls, and improper sequencing. Delays led nursing personnel to re-submit indents for the same product, clogging the pharmacy queue and doubling efforts.

Adil et al. (2017): Data from 540 indents in a large hospital revealed that 29% of general indents and 39% of urgent/emergency indents were delayed beyond acceptable levels. These delays resulted in repeat indenting, stock fluctuations, drug wastage, and substitution issues.

Almalki et al. (2023): Implementation of Automated Dispensing Cabinets (ADCs) in a Saudi hospital led to an 83% reduction in turnaround time and a 72% reduction in drug returns. Real-time updates and direct nurse access to approved medications near-eliminated many indentings.

Fonseca et al. (2023): In English hospitals, lack of policies led pharmacy staff to make presumptions or take extra care, sometimes resulting in over-supply or duplication of orders. This highlighted that recurrent pharmacy-related inefficiencies are often caused by unclear standard operating policies and inconsistent decision-making processes.

Theoretical/Conceptual Framework:

The study is grounded in the Systems Theory, which views an organization as a system of interrelated parts. In the context of hospital pharmacy, multiple indent generation can be seen as a symptom of systemic issues such as poor communication, lack of standardization, and inadequate training. Addressing these root causes through process optimization and technological interventions can enhance overall system efficiency and patient care..

Research Gap:

Despite these findings, none of the above studies specifically focus on multiple indent generation as a standalone operational concern. Most studies address it as a result of manual systems, stockouts, or drug delays. A targeted study on the underlying causes, operational consequences, and mitigating techniques regarding multiple indenting in inpatient pharmacy processes is needed.

Research Questions:

What are the primary causes of multiple indent generation in hospital pharmacy systems?

How frequently do duplicate indents occur, and what factors contribute to their occurrence?

What is the impact of multiple indents on patient care and pharmacy operations?

What is the level of staff training and confidence in the indenting process and Hospital Management Information Systems (HMIS)?

What strategies can be implemented to reduce multiple indent generation and improve operational efficiency?

Methodology:

A descriptive, cross-sectional study to be conducted among nursing staff in inpatient departments of a tertiary care hospital. The study aimed to evaluate patterns, challenges, and opinions regarding multiple pharmacy indents within the hospital workflow.

Plan of Analysis:

Descriptive Statistics: To summarize participant demographics and key variables.

Frequency Distribution: To assess the occurrence of multiple indents and associated factors.

Correlation Analysis: To identify relationships between staff training levels, confidence in HMIS, and the frequency of multiple indents.

Impact Assessment: To evaluate the effects of multiple indents on patient care and pharmacy operations.

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