World Journal of Biology Pharmacy and Health Sciences
eISSN: 2582-5542
Cross Ref DOI: 10.30574/wjbphs
Journal homepage: https://wjbphs.com/

(REVIEW ARTICLE)

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Analysis of medication refunds from hospital wards to in-patient pharmacies: Impact on workload, costs, and strategies for reduction

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World Journal of Biology Pharmacy and Health Sciences, 2025, 22(03), 508-511

Publication history: Received on 16 April 2025; revised on 17 June 2025; accepted on 20 June 2025

Article DOI: https://doi.org/10.30574/wjbphs.2025.22.3.0610

Abstract

Aim: To study number and types of refund medicines from different wards of hospital to the in-patient pharmacies.

Objectives:

- To figure out possible reasons for unused medication returned to pharmacies.
- To provide knowledge about awareness of returning of medicines and its consequences.
- To ensure proper and required prescription medicines to consumers.
- To analyse frequency of returned medication after they have been prescribed.
- Lower the incidence of returning unused medicines.
- To provide better options for proper collection and disposal of pharmaceuticals waste.

Methods: Prospective observational cohort study in a tertiary care hospital. Data was collected via return indent forms from 340 samples and analyzed using Excel PivotTables.

Results: Most drugs were returned from IV route (85%). Major reasons included discharge, omissions, and route conversions. Total items returned were 2402 including both Rx and surgical items.

Conclusion: Refund medications increase pharmacy workload and risk of error. Improved communication, digital reconciliation, and nursing stock management can significantly reduce returns.

Keywords: Medication returns; Pharmacy workload; Hospital wards; Drug disposal; Medication error; Tertiary care

1. Introduction

A medication refund policy is a crucial aspect of patient care, ensuring financial protection and fostering trust between patients, healthcare providers, and pharmacies. This thesis will explore the various aspects of medication refund policies, including their importance, legal guidelines, and implementation strategies. The research will delve into the factors influencing medication returns, such as medication errors, adverse side effects, and changes in a patient's medical condition. It will also analyse the impact of medication refund policies on patient adherence, healthcare costs, and public health outcomes. One kind of reverse logistics that has gained a lot of traction in the pharmaceutical and health sectors is medicine return. It is frequently linked to several complications and, in the majority of instances, results from an imbalance between the demands and needs for treatment. The return of medications from patient locations to the hospital pharmacy unnecessarily disrupts and deviates from the regular operations and duties of Pharmacy, adding to the workload associated with ordinary pharmacy tasks in the hospital context. In the end, this may increase the

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chance of drug errors. Additionally, fewer employees and different technology that help with order processing raise the possibility of mistakes while distributing medication.

1.1. Refund Policy in Tertiary Care Hospital

In order to decrease the workload of the pharmacy and medication dispensing mistakes, it would be helpful to know the frequency and contributing reasons of medicine returns when developing new hospital policies for medicine prescribing and dispensing.

Medication refund policies in tertiary care hospitals are crucial for ensuring patient access to affordable medications and minimizing medication waste. Here's a breakdown of key aspects to consider:

- Policy development: Hospitals should involve pharmacists, doctors, and patient advocates in crafting clear and fair medication return policies.
- Reasons for return: Policies should outline acceptable reasons for returns, such as medication errors, adverse effects, or changes in a patient's condition.
- Refund process: The process for returning medications should be well-defined, outlining requirements for documentation and timelines for receiving refunds.
- Limitations: Hospitals may need to exclude certain medications from return due to safety concerns or difficulty verifying integrity.
- Communication: Hospitals should effectively communicate the medication return policy to patients, healthcare providers, and pharmacy staff.

1.2. Refund of Refrigerator Medicine

Refunding refrigerator medications typically follows the same principles as other medications, but with some added consideration due to specific storage requirements. Here's a breakdown:

- General Refund Policies: Most hospitals and pharmacies have established guidelines for medication returns and refunds. These policies typically outline acceptable reasons for returns, timeframe for returns, and medication conditions for eligibility.
- Refrigerator Medication Considerations: Some additional factors may influence the return of refrigerated medications:
  * Temperature integrity: If the medication's temperature hasn't been maintained within the recommended range (2°C to 8°C), it might not be suitable for return due to potential loss of potency or safety concerns.
  * Documentation: Proof of proper storage, such as receipts from cold-chain shipping or storage logs, might be helpful to demonstrate temperature control.
- Best course of action: Contact your hospital's pharmacy department or the pharmacy where you obtained the medication. Explain the situation and inquire about their specific policy for returning refrigerator medications. They can clarify if a return is possible and guide you through the process.

1.3. Flowchart Description

Flowchart outlining the guidelines for a medication refund process in a tertiary care hospital:

- Patient requests medication refund.
- Is the medication on the hospital's approved refund list?
  - If yes:
    - Is the medication unopened, unused & in its original packing with expiry date intact?
    - If yes: Refund initiated, record transaction & reason for refund.
  - If no:
    - Medication is not on the approved refund list -> Explain policy to patient.
    - If medication is opened or unused -> Medication is not refundable due to hospital policy.

1.4. Cost

The cost of medicine is a complex topic that involves various factors, from the production and manufacturing costs to the final pricing for consumers.

1.4.1. Impact on Healthcare:

The rising costs of medicines contribute significantly to the overall expenses of healthcare systems. This trend is a major concern in both developed and developing countries, as it affects the accessibility and affordability of essential medicines.

From collected return indent samples, items are classified on the basis of their cost (Rs.) as follows:

COST (Rs.)	NO. OF ITEMS
>1000	37
1000-500	316
500-100	642
<100	1387

1.5. Major Reasons for Refund

The chart represents five categories related to reasons for refund. Each vertical bar corresponds to one of the categories. The height of each bar indicates the quantity or count associated with that reason for refund.

1.5.1. Interpretation:

- NORMAL DISCHARGE: This category likely represents standard refunds due to normal processes (e.g., returns for non-defective items).
- OMIT/STOPPED: Refunds related to items that were stopped or discontinued in the market.
- CONVERSION TO PO: Refunds due to a change from intravenous (IV) administration to oral (PO) administration.
- LOWER STOCK: Refunds resulting from insufficient stock availability.
- DAMA: Refunds related to patients leaving against medical advice.

1.5.2. Quantity of refunds by reason:

- Normal discharge/death – 209
- Omits/stopped – 85
- Conversion from IV to PO – 15
- Over stock – 20
- DAMA – 1

2. Conclusion

The medicine return is proportionate to the medication error. Both the medicine return and medication errors can be controlled by upgrading nursing floor stock medicines list and also by improving the medication management system.

It is everyone's responsibility to reduce medicine waste and to be aware of which regular and 'if required' medicines are needed at the time of prescribing and dispensing. Education is critical to ensure that practices to minimise medication error are implemented. Prescription quantities need to be balanced with access, adherence and overall cost. However, despite our best efforts to minimise medication error, it will occur. Proper education is therefore a vital process that provides a safe, easy and ef...To reduce the number of returned medicines, health professionals using the Computerized physician order entry (CPOE) systems must be trained appropriately. Once the discharge date of the patients is known, it is imperative to record this information as quickly as possible in the software. Return medications are a source of increased workload on pharmacy staff and can make them error prone on different stages of dispensing and administration of medications. Effective communication of nursing staff and physicians with pharmacists is the single largest approach to reduce medication return. This communication gap can also be improved by creating options

of virtual communication via CPOE functioning in in-patient setting and also by medication reconciliation on daily basis of dispensed medicine.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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