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FINANCIAL SAVINGS FROM CONTROLLED EXEMPTION AND RETURN OF USABLE MEDICAL SUPPLIES AND EQUIPMENT FROM PRINCE ZAID BIN AL-HUSSEIN MILITARY HOSPITAL

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ABSTRACT

Background: Stock review can identify unnecessary supply requests and usable items to be returned. **Objective**: To estimate recorded value of exempted and returned medical stock and to reduce costs of implementation. **Methods**: This is a retrospective descriptive cost analysis based on official records from Prince Zaid bin Al-Hussein Military Hospital from 1 January 2026 to 30 June 2026, Exempted items were items excluded from unnecessary warehouse issue Returned items were usable stock moved to the Main Medical Warehouses or related stock areas Values were computed from quantities and official unit prices and Transport costs were included. **Results**: The total value was 179,224.646 JD, the exempt items was 157,473.433 JD, the of returned stock was 21,751.213 JD, the cost of ampule mentation was 1,393.333 JD, the net value was 177,831.313 dinars, assuming a 22-day period, the cost of implementation was 1,572.727 JD, and the net value was 177,651.919 JD. **Conclusion**: Stock review identified medical stock with a recorded value well above implementation costs, with most value derived from avoided warehouse issue, these estimates show cost avoidance and recovered stock value, and do not represent equivalent cash savings.

KEYWORDS: inventory management; hospital pharmacy; cost avoidance; medical supplies.

INTRODUCTİON

Reviews of hospital stock can identify excess supplies and unnecessary requests The guidelines for managing medication costs recommend using data on purchasing, usage and inventory to guide decision making.[1] Hospital cost containment efforts also include procurement, storage, distribution, prescribing, and use.[2,3] Changes in the supply chain can re duce costs and improve avail ability of products, although results are setting and intervention dependent[4,5] Within hospitals, redistributing medicines before their expiry can reduce waste,[6] In a study carried out in a hospital over seven years the inventory waste was reduced after ABC–VEN analysis, in which the items are grouped by expenditure and clinical importance.[7] Prince Zaid bin Al-Hussein Military Hospital Stock Review Two activities were included Unnecessary requests were excused from warehouse issues or other stock areas, but their recorded value does not on its own reflect a reduction in cash expenditure. In this study, the value of exempted and returned stock was estimated from official records It also estimated the costs of ampule mentation and the netbook value under two assumptions of staff costs.

METHODS

Study design and setting

We carried out a retrospective descriptive cost analysis in the Prince Zaid bin Al-Hussein Military Hospital, Jordan Study period reported was 1 January to 30 June 2026.

Study selection and data sources

Data were collected from official hospital and warehouse stock records and the analysis included documented pharmaceutical items, medical supplies, ophthalmic lenses, and operating-room pharmacy supplies eligible items had been exempted from warehouse issue or returned as usable stock AND We excluded items for which no documented quantity or official value was available.

Valuation and definitions

Returned items were usable stock that was returned to the Main Medical Warehouses or associated stock locations; thus, an exemption was a stock issue exemption, not an exemption from patient payment.

Each item was valued at its recorded quantity multi plied by its official unit price The gross recorded value was the sum of the value of the exempted items and the value of the returned stock The net recorded value was calculated by subtracting implementation costs These measures describe stock value and potential cost avoidance, they do not measure confirmed cash savings.

Costs

Implementation costs included staff time and transport costs in the base case, the cost per day of staff was calculated as the monthly salary divided by 30 days and multiplied by the amount of time for the activity and the number of staff involved, Transport costs were 180 JD per transfer for five transfers Staff activities and costs are shown in Table 2.

Description

We used monthly salary divided by 22 working days for the sensitivity analysis, Staff time and transport costs were otherwise unchanged We summarized values as totals and percentages, with the numerator for each category percentage being the gross recorded value, Monetary values are presented in Jordanian Dinars (JOD) to three decimal places.

Ethical approvals

The study was approved by the committee of pharmaceutical and clinical research and professional ethics of the Jordanian Royal Medical Services.

RESULTS

The gross value amounted to JOD 179,224.646 Exempted items were JOD 157,473.433 (87.87%) and returned stock JOD 21,751.213 (12.13%), The largest category in the exemption cycle was January – February JOD 94,127.500 (52.52%), Ophthalmic lenses were the highest value of returned items (Table 1).

Table 1: Recorded value of exempted and returned stock.

Category	Stock source or destination	Value (JOD)	Share (%)
Exempted stock, January–February	Main Medical Warehouses	94,127.500	52.52
Exempted stock, March–April	Main Medical Warehouses	30,784.073	17.18
Exempted stock, June–July	Main Medical Warehouses	32,561.860	18.17
Subtotal for exempted stock	Main Medical Warehouses	157,473.433	87.87
Returned usable stock	Main Medical Warehouses	5,679.483	3.17
Returned ophthalmic lenses	Ophthalmic stock	15,729.340	8.78
Returned operating-room pharmacy supplies	Operating-room pharmacy	342.390	0.19
Subtotal for returned stock	All return destinations	21,751.213	12.13
Gross recorded value	All categories	179,224.646	100.00

implementation cost was JOD 1,393.333 Allocated staff time accounted for JOD 493.333, and transport accounted for JOD 900 (Table 2).

Table 2: implementation costs.

Activity	Time or quantity	Rate (JOD)	Cost (JOD)
Transfer worker	5 transfers × 1 day	10.000/day	50.000
Transfer guard	5 transfers × 1 day	10.000/day	50.000
Transfer delegate	5 transfers × 1 day	15.000/day	75.000
Transfer driver	5 transfers × 1 day	11.667/day	58.333
Preparation	3 employees × 2 days	20.000/day	120.000
Vehicle receiving	5 vehicles × 1 day	20.000/day	100.000
Coordination and documentation	4 staff × 0.5 day	20.000/day	40.000
Transport and vehicle fuel	5 transfers	180.000/transfer	900.000
Total implementation cost			1,393.333

The net recorded value was JOD 177,831.313, Using 22 working days increased implementation cost to JOD 1,572.727 and reduced net value to JOD 177,651.919 (Table 3).

Table 3: Net recorded value and sensitivity analysis.

Salary divisor	Implementation cost (JOD)	Net recorded value (JOD)
30 days	1,393.333	177,831.313
22 working days	1,572.727	177,651.919

DISCUSSION

The total recorded value of the exempted and returned stock was JOD 179,224.646, Most of this value was due to unnecessary warehouse issue, this finding supports the need to review stock coverage before approving further supply requests and it is consistent with the guidance that cost management should make use of purchasing and inventory data.[1, 3]

The returned stock was JOD 21,751.213, Uba et al described cost avoidance through redistribution of emergency medicines nearing expiry.[6] [7] and Alanazi et al. reported the reduction in inventory waste after ABC–VEN analysis, these studies support the value of stock review, but differ from ours in their interventions, financial estimates should not be compared directly with these results.

The cost of implementation was 0.78% of the gross recorded value, for every JOD of the implementation cost, the recorded stock value was JOD 128.63 The alternative salary divisor changed the net estimate by JOD 179.394, This small change has an effect on the low share of assigned staff costs in the overall calculation.

The financial interpretation must be approached with caution, A return within the same supply system is a transfer of current stock, not a monetary refund. Likewise, avoiding a warehouse issue does not automatically cancel a purchase realize savings depend on subsequent use of the stock and whether future procurement is reduced our calculation therefore estimates potential cost avoidance and recovered inventory value.

The findings are consistent with the wider literature on cost management within the medicine supply chain[2,4,5] A good next step for this hospital would be to link each exemption or return to subsequent records of stock use and procurement This would show how much of the recorded value translated into an actual reduction in spending.

Limitations

1- This study covered one hospital.
2- The analysis used official stock prices which may differ from replacement costs.

CONCLUSION

Exempted and returned stock had a combined recorded value of JOD 179,224.646, After listed implementation costs, the net recorded value was JOD 177,831.313, Avoided warehouse issue accounted for most of this value, Regular stock review may help prevent unnecessary requests and support redistribution of usable supplies Follow- up of stock use and purchasing is needed to confirm actual financial savings.

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