Inventory Management for Automated Dispensing Cabinets

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Conflict of Interest

NO CONFLICTS OF INTEREST TO REPORT
Objectives

Outline the goals of Automated Dispensing Cabinet inventory management

Understand Automated Dispensing Cabinet inventory management terminology

Identify positive and negative practices used to reduce costs

Summarize steps to achieve best practices to reduce costs
Pre-Assessment

A. ADC inventory must be optimized to reach turn goal
B. ADCs only comprise a small portion of pharmacy inventory
C. A high par for fast movers should be set regardless of cost
D. Focusing only on the highest cost medications will control the inventory
Medication Costs

Inventory costs must include ADC costs
ADC Reporting

Stocked Items without Active Medication Orders > 90 days
Meds without Removals
Par vs Usage Report > 90 Days
90 Day Utilization Report
Typical methods of ADC inventory management

Manage stockouts by increasing par levels
Decrease or remove items based on reduced utilization
What more can we do?

TARGET INVENTORY TURN GOAL
Extended Cost

What is it?

Calculating the extended costs in the automated dispensing cabinet inventory will determine the medications with the highest cost to carry.

Item cost times total quantity = extended cost
Extended Cost

Why does this work?

The medications with the highest carrying costs are not the most expensive medications.

They are usually the most utilized medication on the second tier.

Reduce the amount of inventory for high carrying cost drugs.
Extended Cost

Pro

**Great** if you have someone who can enter all the costs of all medications

Con

**Terrible** if you don’t have someone who can enter all the costs of all medications
PDCA
WHAT I DID
Plan

IDENTIFY HIGH COST MEDICATIONS

80/20 Top drugs by cost

- Rabies Immune Globulin
  - $22,720.92
- Methylprednisolone 40mg
  - $14,074.67

80/20 Utilized medications

- Methylprednisolone 40mg
  - $14,074.67
- Piperacillin/Tazobactam
  - $8,008
- Propofol 100mL
  - $6,313.89
- Tetanus Toxoid
  - $5,479.44
- Albumin 25% 50mL
  - $5,880.40
Do

ADJUST PARS FOR HIGH COST MEDICATIONS

Par vs Usage Report

- Methylprednisolone 40mg
  - 225 to 200
- Piperacillin/Tazobactam
  - 100 to 85
- Propofol 100mL
  - 50 to 40
- Tetanus Toxoid
  - 20 to 5
- Albumin 25% 50mL
  - 30 to 20

- Not below critical low
IMPACT OF HIGH COST MEDICATIONS

Prechange

- Methylprednisolone 40mg  
  o $14,074.67
- Piperacillin/Tazobactam  
  o $8,008
- Propofol 100mL  
  o $6,313.89
- Tetanus Toxoid  
  o $4,044.88
- Albumin 25% 50mL  
  o $3,828.24
- Total $36,269.68

Postchange

- Methylprednisolone 40mg  
  o $12,728.07
- Piperacillin/Tazobactam  
  o $7,619.07
- Propofol 100mL  
  o $3,593.94
- Tetanus Toxoid  
  o $5,479.44
- Albumin 25% 50mL  
  o $5,880.40
- Total $35,300.92
## Tracking Savings

<table>
<thead>
<tr>
<th>Drug</th>
<th>Current Max</th>
<th>New Max</th>
<th>Delta</th>
<th>Cost per dose</th>
<th>Savings</th>
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</thead>
<tbody>
<tr>
<td>Methylprednisolone</td>
<td>225</td>
<td>200</td>
<td>25</td>
<td>$4.59</td>
<td>$114.75</td>
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<tr>
<td>Piperacillin/Tazobactam</td>
<td>100</td>
<td>85</td>
<td>15</td>
<td>$3.50</td>
<td>$52.50</td>
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<tr>
<td>Propofol</td>
<td>50</td>
<td>40</td>
<td>10</td>
<td>$10.83</td>
<td>$108.30</td>
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<tr>
<td>Tetanus Toxoid</td>
<td>20</td>
<td>5</td>
<td>15</td>
<td>$18.96</td>
<td>$284.40</td>
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<tr>
<td>Albumin</td>
<td>30</td>
<td>20</td>
<td>10</td>
<td>$36.81</td>
<td>$368.10</td>
</tr>
</tbody>
</table>

Total Savings: $928.05
Act

MOVING FORWARD

• Review 80/20 Utilization in ADC
• Review Par vs Usage reports
• Repeat every 90 days to adjust
Post-Assessment 1

A. ADC inventory must be optimized to reach turn goal
B. ADCs only comprise a small portion of pharmacy inventory
C. A high par for fast movers should be set regardless of cost
D. Focusing only on the highest cost medications will control the inventory
Extended cost is

A. Par times usage
B. Item cost times total quantity in stock
C. ADC cost
D. Item cost times usage
Post-Assessment 3

A. Extended cost method will definitely create savings
B. Extended cost method decreases inventory to reach turn goals
C. It is easy to implement extended cost for every item in the pharmacy
D. Medications with the highest carrying costs are always the most expensive medications
Number of days to assess par vs usage reports

A. 7
B. 28
C. 90
D. 365
Post-Assessment 5

A. Managing stockouts by decreasing the par will decrease spending

B. Automated Dispensing Cabinets can automatically manage the inventory

C. Pharmacy inventory includes ADC inventory

D. Turn goals should not include ADC inventory
References


KELM M. MAXIMIZING THE VALUE OF AUTOMATED DISPENSING CABINETS. PHARMACY PURCHASING & PRODUCTS; VOL. 14 NO. 2, FEBRUARY 2017.


WILD D. BETTER DISPENSING VIA ADC OPTIMIZATION. PHARMACY TECHNOLOGY REPORT. MARCH 2017