Use of an Automated Distribution System to Reduce Pharmaceutical Waste

Oak Hills Living Center
New Ulm, MN

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MnTAP Intern 2009

Advisor: Catherine Zimmer
Company Overview

• Oak Hills Living Center, New Ulm
  • Nursing home and assisted living facility
  • 94 seniors in nursing home
  • 16 person rehab wing
  • 24 hour care
  • Social activities
  • Laundry, barber
  & beautician services
Motivations for Change

• Cost Savings
  – 17,100 oral tablets disposed annually
  – $25,800 (A W P)

• Resident annually pays over $200 for unused medications

• Controlled substance management
Reasons for MnTAP Assistance

• Minimize environmental impact

• Waste management costs

• Limited staff resources
Approach

• Learn process and systems
  - Shadow nursing staff
• Document waste
• Identify alternatives
• Research barriers
• Cost analysis
Medication Carts

- Medications ordered in blister packs
- Cart organized by time of day
- Controlled substances locked separate inside cart
Inefficient Processes

- Pre-ordering 30 day supply of medications
- Most medications cannot be returned to the pharmacy
Automated Distribution System (ADS)

- Distributes one unit dose medication
- Computer controlled
  - Storage
  - Documentation of distribution
- Interfaced with pharmacy software
- Proven system used in hospitals
ADS Examples
Option 1: ADS on Rehabilitation Wing

- Rehabilitation Wing
  - 16 residents
  - High turnover
- Use Med Dispense® Base 45
- Reduce waste
  - 1,150 oral tablets
- Reduce medical errors
Option 1: ADS on Rehabilitation Wing

- Not economically favorable
  - $6,000 more than current system annually
  - Waste and labor savings not justified by cost of machine
  - Increase pharmacist’s time at facility

- Not recommended
Option 2: ADS controlled substances for the entire facility

- Support 94 residents in the facility
- Use 3 Med Dispense® machines to manage controlled substances
- Decrease diversion, increase security, increase resident care
- Eliminate annual sewer ing of 4,600 doses of controlled substances
Option 2: ADS controlled substances for the entire facility

- Economically Similar
  - $1,000 more annually than current system
  - Reduces time of administrative tasks

- Increases management of controlled substances

- Recommended upon further analysis
Option 3: Remote Distribution

- Talyst InSite®
- Monitored by pharmacy
- Holds 300 doses of 240 types of medications
- Package medications “just in time”
Option 3: Remote Distribution

- Economically favorable
  - Reduce annual costs by $18,400 per year
  - Increase nursing and resident “face to face” time
  - Eliminate disposal of 17,100 oral tabs annually
- Reduce medical errors
- Obstacles to implementation
- Recommended
<table>
<thead>
<tr>
<th>Capability</th>
<th>Med Cart</th>
<th>Med Dispense™</th>
<th>Talyst InSite ™</th>
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<td>Pharmacy profile mode</td>
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<td>Resident name printed on medication</td>
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<td>Medication organized by time</td>
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<td>Access to only one type of medication</td>
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<td>Reduces waste</td>
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<td>Only pharmacy access to controlled substances</td>
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Personal Benefits

• Communication
  - Technical reading comprehension
  - Technical writing ability

• Self motivation

• Attention to detail
Questions?
Photo credits

• Capsule
  – www.callumconsultancy.com
• Blister Pack
• Faucet
• Pyxis
  – www.medifair.hu/pyxis/med3000.jpg
• Unit dose roll
• ADS
  – www.webmm.ahrq.gov/media/cases/images/case118_fig01.jpg
• InSite
  – www.insiterx.com