Creating Value within the Supply Chain

Agenda

• Background
• Traditional Supply Chain
• Project Objectives
• Why Outsource?
• Scope of Operations
• Sources of Variability Impacting Operations
• Best Practices
• Metrics/Results
Customer Overview – The Nebraska Medical Center

The Nebraska Medical Center

- Licensed Beds -- 621
- Operating Rooms – 33
- Inpatient Admissions – 24,557
- Average Daily Census – 360
- Average Length of Stay – 5.3 days
- Emergency Room Visits – 50,794
- Outpatient Visits – 427,726
- 16,189 Surgical Cases
- GPO: Med Assets
- Supply Spend: $70 – $75M/yr

Customer Overview – Bellevue Medical Center

Bellevue Medical Center -- Opened May 17, 2010

- Licensed Beds -- 91
- Operating Rooms – 8
- Inpatient Admissions – 3,983
- Average Daily Census – 34.6
- Average Length of Stay – 3.98 days
- Emergency Room Visits – 28,489
- Outpatient Visits – 58,049
- GPO: Med Assets
- Est. Supply Spend: $5.5M/yr
Consequences of a Traditional Supply Chain

- Critical supply locations unknown
- Manual ordering, receiving, picking and sorting
- Lack of timely replenishment at point of use
- Stock-outs
- Expired supply costs
- Unrealized charge capture
- Delayed or postponed procedures
- Increase in stat turn-around time
- Duplicate products and price parity
- Decreases overall patient care
Why Outsource???

Reasons for Outsourcing

• Clinical Labor vs. Non-Clinical Labor
• Focus on Core Business
• Improved Service
• Frees up Internal Resources
• Efficiency
• Flexibility
• Peace of Mind
Original Project Objectives

- Outsource non-core functions (i.e. supply chain)
- Protect and sustain the financial strength of core business
- Improve service to clinical operations and patients
- Gain better accountability of supplies being purchased
- Optimize the use of technology and data
- Create a business plan that aligns incentives
- Contribute to the continuum of patient safety
- Clinical retention of product selection
- Dock to patient distribution

Scope of Cardinal Partnership

**Vision**
Wherever possible, leveraging emerging technology will be essential for successful implementation of our strategies.

**Strategy**
Leverage Cardinal Health’s industry leading scale and expertise to deliver state of the art processes and efficiencies that support patient care from manufacture to patient bedside.

<table>
<thead>
<tr>
<th>Product</th>
<th>Process</th>
<th>People</th>
<th>Technology</th>
<th>Finance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vendor Owned</td>
<td>Supply Spend Analytics</td>
<td>Supply Techs</td>
<td>Point of Use</td>
<td>Inventory Reconciliation</td>
</tr>
<tr>
<td>- Distributed and Non-stock</td>
<td>Contracting</td>
<td>Accounts Payable</td>
<td>Audibility</td>
<td></td>
</tr>
<tr>
<td>Quantity</td>
<td>Purchasing</td>
<td>Dock Personnel</td>
<td>Optimize Inventory</td>
<td>Billing Based on Usage</td>
</tr>
<tr>
<td>Market Intelligence</td>
<td>Supply Distribution</td>
<td>Contracts</td>
<td>Reduce Touchpoints</td>
<td>Single Monthly Invoice</td>
</tr>
<tr>
<td></td>
<td>Inventory Control</td>
<td>Purchasing</td>
<td>Item File Management</td>
<td>Aligned Incentives</td>
</tr>
<tr>
<td></td>
<td>Storeroom Management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Accounts Payable</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

© Copyright 2014, Cardinal Health. All rights reserved. CARDINAL HEALTH, the Cardinal Health LOGO and ESSENTIAL TO CARE are trademarks or registered trademarks of Cardinal Health. All other marks are the property of their respective owners.
Patient Focused Supply Chain

Demand Flow

- Point of Care
- Floor
- Storage
- Manufacturer
- Distributor/Wholesaler
- Contracts / Purchasing

Product Flow

- Floor
- Storage
- Distributor/Wholesaler
- Contracts / Purchasing

Attack Sources of Variability to Improve Predictability

4 test results fall in the same area but miss the bullseye

Precision
Seasonal Impact

Summer  
Winter  
Flu

Patient Census

Fluctuating patient census
- Ramp up clinical staff
- Seasonal staff
Clinical Practice

- Lack of standardization
- Diseases treated differently
“Lean” Mentality

- Grocery stores adapted to a lean model
- Just-in-time inventory (logical unit-of-measure)

Freight Management

- Freight has become a profit center for manufacturers
  - Hidden in price of product
- Operating Room should be focal point
  - Next-day delivery
  - Transportation budget managed elsewhere
- Unit price vs total delivered cost
Number of Suppliers

- More invoices
- More time spent ordering
- More time unloading trucks
- More cost

Manual Cycle Counting

- No Value-Add in Counting
  - 50% Materials Management Time?
- Too Many Mistakes
  - UOM Issues
  - Fat Finger
- Correct Cycle Count Frequency?
  - Weekly, Monthly, Quarterly
  - NEVER?
## Our Take On Some Common Metrics

<table>
<thead>
<tr>
<th>Rank</th>
<th>Tracking Methods</th>
<th>Our Thoughts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>Total Supply Expense as a % of Net Patient Revenue</td>
<td>• Variability in Net Patient Revenue distorts month over month trends</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Does not effectively illustrate true supply spend performance</td>
</tr>
<tr>
<td>Better</td>
<td>Total Supply Expense Per Adjusted Discharge or CMI</td>
<td>• Better aligns supply spend with patient volumes and level of acuity</td>
</tr>
<tr>
<td></td>
<td>Adjusted Discharge</td>
<td>• Does not capture supply spend performance at the patient level</td>
</tr>
<tr>
<td>Best</td>
<td>Supply Intensity Score</td>
<td>• Measures supply costs by patient and procedure type</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Provides more precise and actionable data</td>
</tr>
</tbody>
</table>

## Are You Measuring The Right Metrics?

- Every hospital measures similar benchmarks
  - But your waste is hiding in what you’re not measuring

<table>
<thead>
<tr>
<th>New metrics to track</th>
<th>Improvement Opportunity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expired Supplies</td>
<td>• How much are you expiring out each month?</td>
</tr>
<tr>
<td></td>
<td>• These are products that could have been returned, redeployed, or even resold.</td>
</tr>
<tr>
<td>Lost Products (Leakage)</td>
<td>• How much product is missing each month?</td>
</tr>
<tr>
<td></td>
<td>• Leakage can be mitigated with enhanced tracking and inventory controls.</td>
</tr>
<tr>
<td>Clinical time spent on</td>
<td>• How much clinical time is spent on finding stocked out supplies, logging in/out of POU</td>
</tr>
<tr>
<td>supply chain (HCAPS)</td>
<td>systems, or recording takes/returns?</td>
</tr>
<tr>
<td></td>
<td>• This represents time could have been spent with the patient.</td>
</tr>
</tbody>
</table>
What it takes to be successful...

Successful Initiatives

- Standardization of Products
  - Reduction in SKU’s
- Consolidation of Departments
  - PCE (Patient Care Equipment) / MMS (Medical Materials)
- Expired Reduction
  - Proactive Focus
- Discrepancy Reduction
- Job Standardization
- Cross Training
- Product Storage Profiling (Pick path)
- Supply Storage Management (Automation necessary)
Stock to Stock Cycle Time Reduction

Run Chart of Average

Minutes to first put-away

Observation

Average

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

Number of runs about median: 4 Number of runs up or down: 9
Expected number of runs: 10.6 Expected number of runs: 11.3
Longest run about median: 6 Longest run up or down: 4
Approx P-Value for Clustering: 0.179 Approx P-Value for Clustering: 0.305
Approx P-Value for Trends: 0.793

Best Practice Recommendations

Expiration Expense as a percentage of Total Supply Spend (Medical/Surgical/Laboratory)
- 3-5% is Industry Standard

Discrepancy Expense as a percentage of Total Supply Spend (Medical/Surgical/Laboratory)
- 3% or less is Best in Class
Q&A

Thank you!