

**HFMA South Texas Fall Institute
San Antonio, TX**

October 27, 2011

Maximizing the Value of Your Supply Chain

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Presentation Outline



- What is the Supply Chain?
- How Do I know if my Supply Chain is Effective?
- Basic Supply Chain Management
- Resource Management
- Non-Salary Expense Reductions - Examples
- Metrics
- Trends in the Healthcare Supply Chain Marketplace

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Supply Chain Management (SCM)



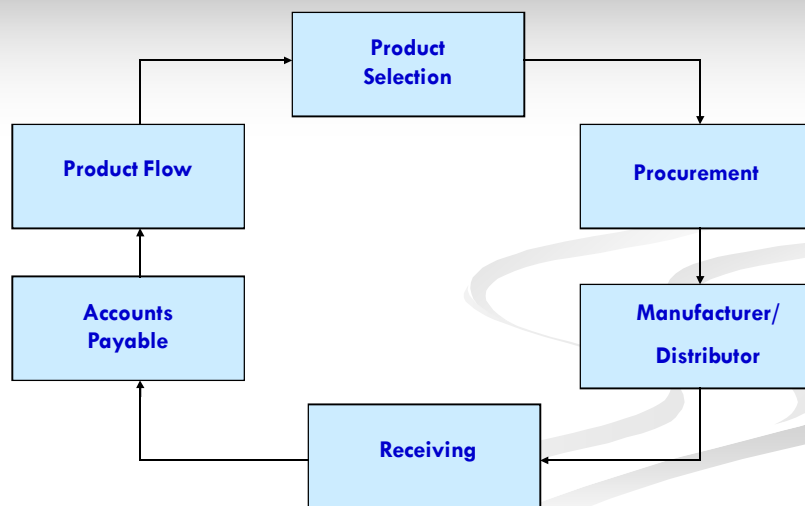
- ❑ Centralization vs. Decentralization
- ❑ The Basic SCM
 - ❑ Purchasing
 - ❑ Contracting
 - ❑ Receiving
 - ❑ Inventory Management
 - ❑ Distribution
 - ❑ Customer Management
- ❑ Advanced SCM (Resource Management)
 - ❑ Product Utilization
 - ❑ Metrics

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The Supply Chain



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Procurement



- ❑ Five Components
 - ❑ Specification – what is needed
 - ❑ Requisition – from customer to Purchasing
 - ❑ Sourcing – where to get the stuff
 - ❑ Negotiation – pricing, terms, etc.
 - ❑ Ordering – formal communication from hospital to supplier
- ❑ So Keep in Mind
 - ❑ Highest impact on cost is specification – but happens infrequently
 - ❑ Negotiation has the largest focus but has nominal impact, except PPI
 - ❑ Secret of success is to “routinize” the processes allocating resources to specification and negotiating as needed

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Basic SCM Measures Procurement



- ❑ Number of Purchase Orders
- ❑ Number of Purchase Order Lines
- ❑ Number of Lines/Purchase Order
- ❑ Number of Rush Purchase Orders
- ❑ Average Lines per Purchase Order
- ❑ Number of Purchase Orders per Supplier per Week
- ❑ Non-Catalog Lines to Total Lines
- ❑ Non-Purchase Order Spend/Total Spend
- ❑ Number of Lower Dollars Purchase Orders/Purchase Orders
- ❑ Pricing Accuracy (number of Purchase Orders/Lines with price inaccuracies) – target of 10 percent per GHX average IDN performance
- ❑ SKU Accuracy (number of Purchase Orders/Lines with SKU inaccuracies) – target of 3.5 percent per GHX average IDN performance
- ❑ Backorder Rates – average of 6 percent per GHX average IDN performance
- ❑ UOM Rates (number of Purchase Orders/Lines with UOM inaccuracies) – target of 1.55 percent per GHX average
- ❑ Invoice Accuracy (number of Invoices/Lines with price inaccuracies)

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Contracting



- ❑ Most Overlooked portion of Supply Chain
- ❑ How do You Know You are Getting the Right Price and Terms
 - ❑ Is it covered?
 - ❑ If it is covered, are you at the right tier
 - ❑ If it is covered do you have the right terms
- ❑ Lack of Information Support Makes this Issue Challenging
- ❑ Solutions
 - ❑ MMIS
 - ❑ GPO
 - ❑ Third party (e.g., GHX)

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Receiving



- ❑ Automated processes:
 - ❑ Electronic order and packing slips
 - ❑ Reduction of errors
 - ❑ Electronic transfer of documentation to AP
- ❑ Desk top/Department deliveries by Supplier
 - ❑ Stationary supplies,
 - ❑ Supply totes

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Basic SCM Measures Receiving/Shipping



- ❑ Inbound Shipments
- ❑ Inbound Shipment Lines Received
- ❑ Inbound Shipments Received Modality (e.g., common carrier, UPS, Federal Express, etc.)
- ❑ Inbound Shipments without Purchase Order
- ❑ Lines/Shipment
- ❑ Shipment Accuracy (number of Shipments/Lines with inaccuracies)
- ❑ Inbound Freight Cost/Total Spend
- ❑ Outbound Shipments
- ❑ Outbound Shipment Lines
- ❑ Freight Cost per Unit Shipped

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Inventory Management



- ❑ Perhaps the Most Overrated Portion of SCM
- ❑ Inventory Pricing – LIFO, FIFO, Weighted Average, FISH
- ❑ Inventory Turnover and Throughput
- ❑ Inventory by Location – Storeroom, Operating Room, Cardiac Cath, Other Areas, Unofficial Inventory
- ❑ Stockless Inventory
- ❑ Consignment Inventory
- ❑ **All things being equal, best to oversupply and minimize replenishment**

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Inventory Throughput Analysis



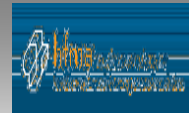
Location	Receipts	Actual			Goal		Value	Potential Reduction
		Value	Turns	DOH	Turns	DOH		
Warehouse	6,311,113	867,888	7.27	50.19	15.00	24.33	420,741	447,147
OR	4,488,628	995,195	4.51	80.93	6.00	60.83	748,105	247,090
Cath Lab	2,995,166	626,118	4.78	76.30	8.00	45.63	374,396	251,722
Total	13,794,907	2,489,201	5.54	65.86	8.94	40.83	1,543,241	945,960
Actual Savings (Cost of Capital estimate at 4.5 percent)								42,568

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Product Flow/Distribution



- Perhaps the Most Underrated Portion of SCM
- Replenishment
 - Anticipatory
 - Demand
- Replenishment Cycles
- Par Capacity Analysis
- Can Distributor Do it Better (Cheaper)
- Facts to Take into Consideration**
 - Incredibly Important Part of SCM**
 - Goal Should be to "Routinize" the Process**

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Basic SCM Measures – Inventory/Distribution



- ❑ Line items (SKUs) in Storeroom, Warehouse, POU
- ❑ Inventory Value – Storeroom, Warehouse, POU
- ❑ Inventory Turns/Throughput
 - ❑ Turns and DOH
- ❑ Planned Distribution Frequency
 - ❑ by area, by week
- ❑ Planned Distribution Line Items
- ❑ Planned Distribution Fill Rate
- ❑ Demand Distribution Frequency
 - ❑ by area, by day, time of day
- ❑ Demand Distribution Line Items
- ❑ Demand Distribution Fill Rate
- ❑ Storeroom/Warehouse Market Penetration – facility, departmental

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Customer Management



- ❑ SCM is far more visible in failure than success
- ❑ Critical Important Aspect of Supply Chain Management
 - ❑ If You Do Not Get this Right, You will Not Be Allowed to Go Further
 - ❑ Perceptions are Reality for the Customer
 - ❑ The American Airlines Flight Attendant Approach
- ❑ Customer Service Survey
 - ❑ Translates Subjective Impressions into Objective Data
 - ❑ Baseline Analysis
 - ❑ Repeated to Document Progress
- ❑ **The Customer May Not Always Be Right – BUT THEY ARE ALWAYS THE CUSTOMER**

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SCM Survey Results



<u>Question</u>	<u>Average Score</u>
Telephone Courtesy	3.22
Competitive Pricing	2.89
Ability to Find Substitute	2.43
Product Quality	3.16
Product Research	2.29
Responsiveness	3.26
Overall Score	2.89

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SCM Service Survey



1. Telephone calls to Purchasing are handled courteously:

- a. All of the time (4)
- b. Most of the time (3)
- c. Some of the time (2)
- d. Never (1)

2. I believe Memorial General Hospital realizes competitive pricing for the products I use:

- a. All of the Time (4)
- b. Most of the Time (3)
- c. Some of the Time (2)
- d. Never (1)

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Going Beyond Basic SCM



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Super Advanced SCM Metrics



- ❑ SCM
 - ❑ Total Delivered Costs
 - ❑ Extra Cost of Delivering Product to Nursing Areas
 - ❑ Par Capacity Analysis
 - ❑ Identifying How Little of the Par Stock is Being Used
 - ❑ Resource Allocation Analysis
 - ❑ Finding Where You Can Better Spend Your Resources
- ❑ Facility Supply Spend
 - ❑ Etiology of Supply Spend
 - ❑ Product Consumption Analysis
 - ❑ Product Line Cost Analysis

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Total Delivered Cost and Par Capacity Analysis



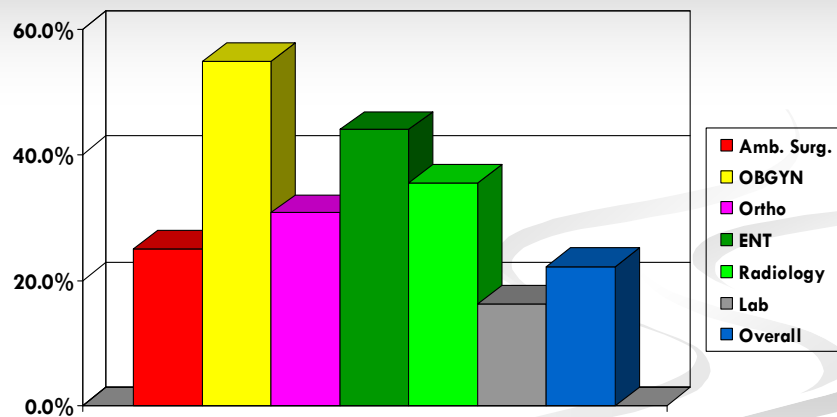
- ❑ Measures Cost and Efficiency of Distribution Processes
- ❑ Can Identify Excess Cost and Help to Identify Strategies for Reduction of Replenishment Intensity and Labor Cost
- ❑ Re-engineering Intervention Predicated upon Better Anticipation and Reaction to Demand
- ❑ Potential for Outsourcing both Planned and Unplanned
- ❑ Calculation:
 - ❑ Total Delivered Costs: Dollars required for Distribution/Dollars Issued
 - ❑ Par Capacity: $\text{Weekly Usage} / \text{Weekly Replenishments} \times \text{Sum of POU Par Levels}$

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Storeroom Market Share



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Total Delivered Cost



Department	Issued	Dollars		Delivery Cost
			Distributed	
Level 1	288,612	68,500	23.7%	
3rd Floor	312,857	43,500	13.9%	
4th Floor	299,612	43,500	14.5%	
5th Floor	188,628	43,500	23.1%	
Level 2	376,888	68,500	18.2%	
Nursery	192,678	43,500	22.6%	
Heart Center	245,677	43,500	17.7%	
Total	1,904,952	354,500	18.6%	

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Par Capacity Analysis



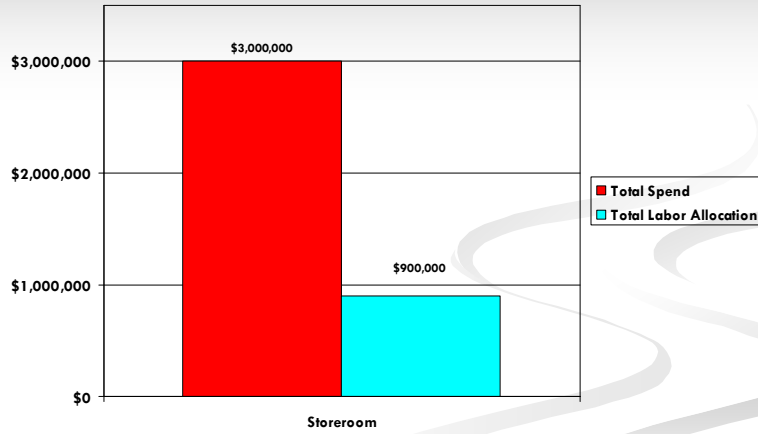
Description	Weekly Repl.	Par Levels		Par Capacity		Actual Usage		Utilization	
		Lines	Dollars	Lines	Dollars	Lines	Dollars	Lines	Dollars
Level 1	7	480	8,188	3,360	57,316	233	17,542	6.9%	30.6%
3rd Floor	7	278	2,373	1,946	16,611	33	378	1.7%	2.3%
4th Floor	7	286	2,557	2,002	17,899	140	8,708	7.0%	48.7%
5th Floor	7	293	3,125	2,051	21,875	151	8,019	7.4%	36.7%
Level 2	7	430	5,353	3,010	37,471	227	12,204	7.5%	32.6%
Pediatrics	7	410	2,862	2,870	20,034	160	2,318	5.6%	11.6%
Nursery	7	86	1,000	602	7,000	58	1,776	9.6%	25.4%
Heart Center	7	378	4,701	2,646	32,907	148	5,052	5.6%	15.4%
L&D	7	668	5,189	4,676	36,323	229	19,741	4.9%	54.3%
Total	63	3,309	35,348	23,163	247,436	1,379	75,738	6.0%	30.6%

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Resource Allocation for Stock Spend

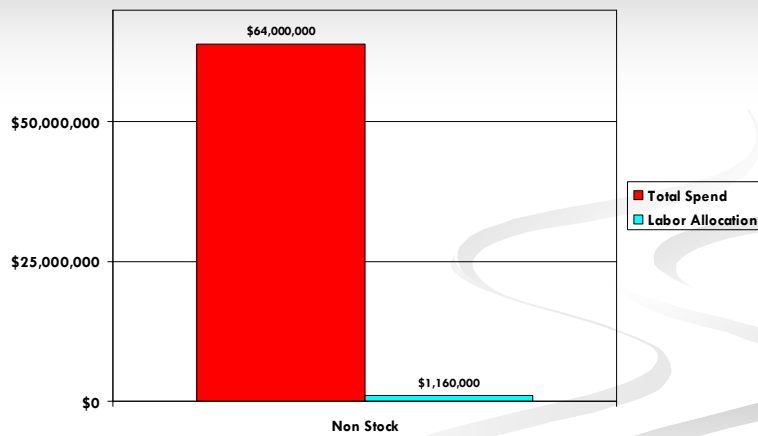


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Resource Allocation for Non Stock Spend



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To Decrease Non Salary Cost



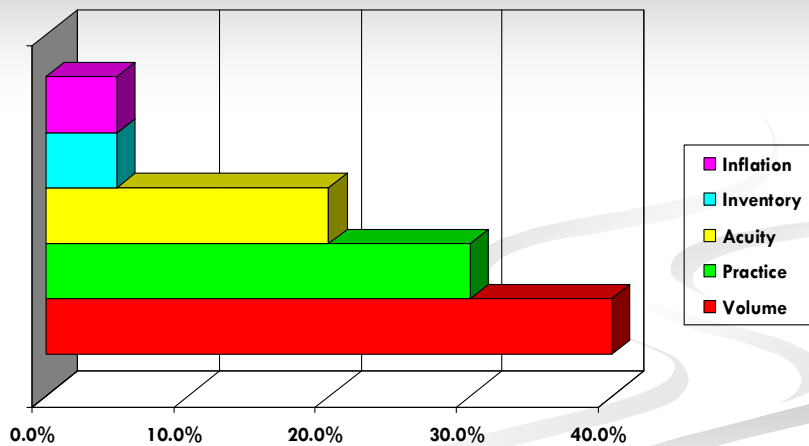
- ❑ Change manufacturers
- ❑ Change product price
- ❑ Change product source
- ❑ Standardize product line
- ❑ Change product usage
- ❑ Change from disposable to reusable
- ❑ Convert to components

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Supply Spend Cost Drivers

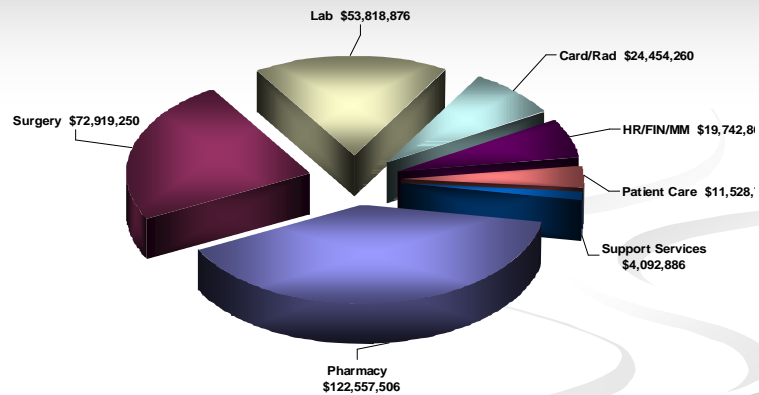
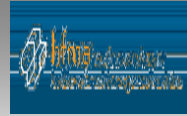


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GL Mapping



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Examples of Product Utilization Interventions



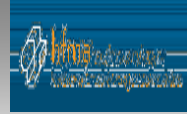
- IV Start Kits
- Anti-embolism Stockings
- Lovenox Dosing
- Orthopedic Implants
- Patient Food Trays
- Disposable Isolation Gowns
- Custom Packs

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IV Start Kits



- ❑ Determine the components of the kit
- ❑ Determine **UHS's** cost for each component
- ❑ Compare purchase price with component cost
- ❑ Meet with nursing to review usage
- ❑ Meet with Supply Chain Management to identify methods to replenish components
- ❑ Implement recommendation



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Anti-embolism Stockings



- ❑ Identify thigh length versus knee length usage
- ❑ Identify DVT protocols in use
- ❑ Meet with nursing to review usage
- ❑ Provide literature for conversion to knee length stockings
- ❑ Implement recommendation

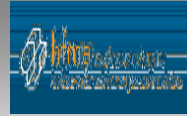


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Lovenox Dosing



- ❑ Identify Lovenox usage in anti-coagulant therapy for non-cardiac patients
- ❑ Identify any protocols in usage for anti-coagulant therapy
- ❑ Identify opportunity to convert b.i.d. dosing to daily dosing based on DUE
- ❑ Present to P&T Committee
- ❑ Implement recommendation



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Orthopedic Implants



- ❑ Identify usage by supplier and calculate market share
- ❑ Determine cost by each specific component (patella, acetabular cup, etc.)
- ❑ Compare cost to **PECA** database
- ❑ Determine cost reduction potential
- ❑ Present to Senior Management to determine Strategy
- ❑ Meet with physicians
- ❑ Negotiate with suppliers
- ❑ Implement recommendation

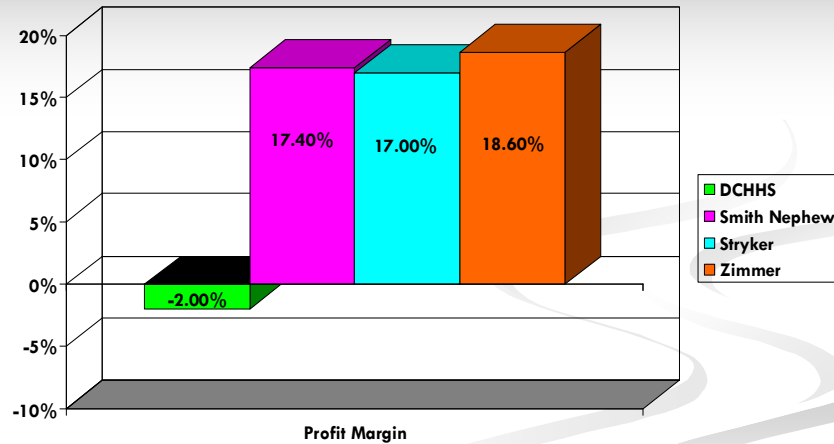
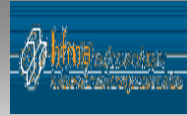


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Comparative Profit Margins



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Patient Food Trays



- Determine patient food tray usage
- Identify usage for inpatient nursing areas
- Identify usage compared to patient days
- Identify costs (food) per tray
- Calculate potential savings
- Identify average usage of food tray by nursing area
- Discuss with VP Patient Care Services
- Develop implementation plan
- Implement recommendation



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Disposable Isolation Gowns



- ❑ Identify annual usage and cost of disposable isolation gowns from hospital data
- ❑ Identify costs of reusable gown (amortization and processing)
- ❑ Discuss opportunity with Infection Control
- ❑ Discuss opportunity with clinicians
- ❑ Identify distribution processes
- ❑ Implement recommendation

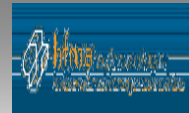


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Custom Packs



- ❑ Determine the components of the custom packs
- ❑ Determine **UHS's** cost for each component
- ❑ Compare purchase price of the custom pack with component cost
- ❑ Identify variance from component cost to pack cost
- ❑ Meet with Supply Chain Management and Perioperative Services
- ❑ Negotiate with suppliers
- ❑ Implement recommendation



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Performance Metrics Tools



- ◆ Supply expense /adjusted operating expense
- ◆ Supply expense/adjusted patient day
- ◆ Supply expense/adjusted discharge
- ◆ Inventory turnover goals
 - ◆ Storeroom
 - ◆ Operating room
 - ◆ Cardiology
 - ◆ Other Areas
- ◆ Book to physical inventory
- ◆ Cost of purchase order

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Comparative Adjusted Supply Cost



- **National Database over 1,000 Facilities**
- **Compares Supply Cost/Admission to Other Facilities**
- **Adjusts for outpatient volume and case mix intensity**
- **Provides “First Cut” of Opportunity to Reduce Non- Labor Expense**
- **If Facility is Lower than Average, Provides Support for Present Practices**

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PECA Supply Cost Survey



Patrick E. Carroll & Associates, Inc. Comparative Adjusted Supply Cost Analysis 50th Percentile of Costs

Hospital Category	No.	ADC ¹	ALOS	Annual Supply Cost	Inpatient Factor ²	Case Mix Index ³	Adj. Supply Cost ⁴	
							Admission	Patient Day
Hospitals 0-49 ADC	312	23.0	3.72	5,283,715	0.4487	1.1664	1,030.01	284.89
Hospitals 50-99 ADC	198	72.8	4.30	13,122,208	0.5898	1.3016	973.36	222.40
Hospitals 100-199 ADC	246	143.7	4.72	25,828,728	0.6635	1.4191	1,133.26	226.01
Hospitals 200-299 ADC	144	240.0	5.02	43,901,787	0.7041	1.5509	1,235.77	230.74
Hospitals 300+ ADC	111	429.9	5.74	79,434,813	0.7329	1.6197	1,450.72	238.96
All Hospitals	1,011	137.6	4.70	25,432,336	0.5958	1.3587	1,112.40	245.51
Sample Hospital		168.0	5.82	25,726,919	0.7224	1.6600	959.99	244.87
Variance ⁵							(173.27)	18.86
Potential Annual Savings							N/A	1,156,712.12

Notes:

- ¹ Average Daily Census
- ² Inpatient Revenue/Total Patient Revenue
- ³ Medicare Case Mix Index
- ⁴ [(Supply Cost per Patient Day/Admission x IP Factor)/Case Mix Index] x Inflation Factor
- ⁵ Variance to Comparably Sized Facilities

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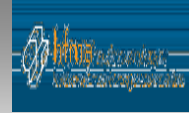
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PECA Supply Cost Survey



Patrick E. Carroll & Associates, Inc. Comparative Adjusted Supply Cost Analysis 25th Percentile of Cost (Best Performers)

Hospital Category	No.	ADC ¹	ALOS	Annual Supply Cost	Inpatient Factor ²	Case Mix Index ³	Adj. Supply Cost ⁴	
							Admission	Patient Day
Hospitals 0-49 ADC	312	23.0	3.72	5,283,715	0.4487	1.1664	586.31	161.52
Hospitals 50-99 ADC	198	72.8	4.30	13,122,208	0.5898	1.3016	753.46	172.26
Hospitals 100-199 ADC	246	143.7	4.72	25,828,728	0.6635	1.4191	844.97	164.53
Hospitals 200-299 ADC	144	240.0	5.02	43,901,787	0.7041	1.5509	1,010.04	181.95
Hospitals 300+ ADC	111	429.9	5.74	79,434,813	0.7329	1.6197	1,112.87	173.05
All Hospitals	1,011	137.6	4.70	25,432,336	0.5958	1.3587	758.57	167.09
Sample Hospital		168.0	5.82	25,726,919	0.7224	1.6600	959.99	244.87
Variance ⁵							115.02	80.34
Potential Annual Savings							1,211,837.62	4,926,436.73

Notes:

- ¹ Average Daily Census
- ² Inpatient Revenue/Total Patient Revenue
- ³ Medicare Case Mix Index
- ⁴ [(Supply Cost per Patient Day/Admission x IP Factor)/Case Mix Index] x Inflation Factor
- ⁵ Variance to Comparably Sized Facilities

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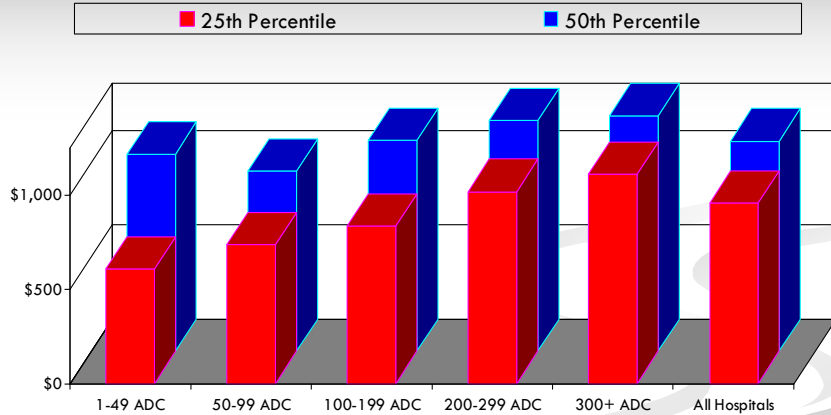
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Adjusted Supply Cost Per Admission



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Future of SCM



- ❑ 25% percent of the job will be moved outside of the hospital to services companies, GPOs and/or vertically integrated disease management companies
- ❑ 70% of the job content will be different as the transactional components become commoditized and the role becomes much more strategic
- ❑ The Chief Technology and Supply Chain Officer role will emerge as a critical and strategic component of the executive leadership team

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Questions



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