Using Supply Chain Data to Achieve Value-Based Purchasing Objectives

Presented by Mary Beth Briscoe, CFO, UAB University Hospital, and Karen Conway, Executive Director, GHX

Session Objectives

Understand the implications of Value-based Purchasing (VBP) for your organization

Understand the role the supply chain can play in achieving the requirements of VBP

Identify the steps you can take in your organization to engage and unleash the potential of your supply chain organization
UAB Health System

- **University Hospital**
  - Established in 1945 as the University of Alabama School of Medicine’s teaching hospital
  - 1,146 bed quaternary and tertiary care medical center
- **University of Alabama Health Services Foundation**
  - Founded in 1973 as a physician-led company
  - Offers services in 32 clinical specialties
  - Employs over 1,000 physicians and 2,500 non-physician employees
- **Baptist Medical Center - Montgomery**
- **UAB Medical West**
- **Callahan Eye Hospital**
- **VIVA**

University Hospital

- Largest academic medical center in Alabama and one of the top four largest academic medical centers in the United States;
- Approximately 800 residents;
- Cardiovascular Center is nationally ranked and provides a full spectrum of heart and vascular services;
- Comprehensive Cancer Center provides cancer treatment and care and performs cutting edge cancer research;
- Only adult level I trauma center in Alabama;
- Level III Regional Neonatal Intensive Care Unit is the only one of its kind in Alabama, caring for the sickest babies in the state and region;
- Comprehensive Transplant Center is a national leader in kidney transplants; and
- Net Revenue of $1.2B.
GHX Industry Ownership

Five founding manufacturers:

- Medtronic
- GE Healthcare
- Baxter
- Abbott Laboratories
- Covidien
- BD
- Siemens
- Covidien
- B Braun
- Bard
- Omnicare
- McKesson
- HCA
- UHC
- AmerisourceBergen
- Thermo Fisher
- Cardinal Health
- Amerinet
- Novation (UHC/VHA)

Additional equity owners:

- Founded in 2000
- 20 current equity owners represent entire healthcare supply chain
- No organization owns more than 15 percent of GHX
- Equity and independent board representation
- Healthcare focused

GHX Trading Network (N. America)

Provider

- 22,880 Providers
- 7,700+ Integrated
- 4107 acute care facilities
- 90 of Top 100 IDNs
- 80% of Acute Care Beds
- 1500 more providers in EU

Supplier

- 10,607 Supplier Divisions
- 760+ Integrated
- 85%+ Med/Surg Market
- 350 additional suppliers in EU

GPO

- All Major GPOs
  - Amerinet
  - HPG
  - MedAssets
  - Premier
  - Novation (UHC/VHA)

Distributor

- All Major Distributors
  - Cardinal
  - AmerisourceBergen
  - McKesson
  - Thermo Fisher

$51B annual transaction volume
>2500% growth since 2001
Unique Trading Partner Connections: >300,000
Hierarchy of Environmental Pressures

Long-Term Macro-Economic Challenges Limit Funding for Healthcare Putting Pressure on Providers in a Number of Ways

- Economic Stagnation
- Federal & State Deficits
- Public Payer Rate Cuts
- Assumption of More Utilization Risk
- Margins under stress/cost imperative
- Increased Mergers/Integration
- Increased Transparency
- Focus on Pay for Value
- Shift Utilization Risk to Providers
- MAC

Purchaser Responses
- Cost Shift to Individuals
- Focus on Pay for Value
- Margins under stress/cost imperative
- Increased Mergers/Integration
- Assumption of More Utilization Risk
- Value Payment Focus
- Increased Transparency

Provider Implications
- People & Culture
- Business Intelligence
- Process Improvement
- Risk & Contract Mgt.

Key Provider Capabilities

Change to Bundled Payments

The Legislation Expands the Bundled Payment Demonstration Project

Current Payment Methodology:

- MS-DRG Payment
- Physician Fee Schedule (PPS)
- Home Health PPS Episode
- Readmission: MS-DRG Pmt

30 Day Episode of Care

Bundled Payment System

- MS-DRG + PPS + Avg. PAC Cost – “Efficiencies” – Readmissions
- Negotiated Pmts
Delivery System Reform

Payment Reform is a blunt tool that is being used to force healthcare to move to a Quality and Value Based model

Increase Healthcare “Value”

The Goal

Tactics

Prerequisite

Electronic Health Records

Improve Quality Reduce Costs

Value-Based Purchasing Reduce Hospital Acquired Conditions Reduce Preventable Readmissions Bundled Payments Accountable Care Organizations

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Value-Based Purchasing Reduce Hospital Acquired Conditions Reduce Preventable Readmissions Bundled Payments Accountable Care Organizations

Accountable Care Organizations

Electronic Health Records

Accurate Supply Use Documentation
Delivery System Reform

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The Goal
Increase Healthcare “Value”

Tactics
Value-Based Purchasing
Reduce Hospital Acquired Conditions
Reduce Preventable Readmissions
Bundled Payments
Accountable Care Organizations

Prerequisite
Electronic Health Records and Accurate Supply Use Documentation

What is Value-based Purchasing?

VBP is a payment methodology that rewards quality of care through payment incentives and transparency.

Value in healthcare is a function of quality, efficiency, safety, and cost.

Everybody Pays

Everyone will see reduced payments to fund VBP
• Reduced DRGs (1% in FY2013 → 2% by FY2017)

Further reductions for 30-day readmission rates above threshold for heart attacks, heart failure and pneumonia

Beginning in FY 2015, further reductions:
– Lack of meaningful use of EMRs
– High rates of certain hospital acquired infections (HAIs)

High Performers Get Paid More

Achievement (compared to others)
Improvement (compared to self)

Core Measures (70%)
+ HCAHPS (30%)

Your VBP Performance Score

VBP program includes efficiency metric
– comprises 20% of total score
ACA Quality Based Payments

Although not well understood, a significant and growing portion of reimbursement is linked to quality

Percentage of Medicare Inpatient Revenue at Risk from Quality Based Payments

What are the Core Measures?

Current core measures\(^*\) focus on clinical process, e.g.,
- Primary PCI received within 90 minutes of hospital arrival
- Discharge instructions
- Prophylactic antibiotic within 1 hour prior to surgical incision

One current measure addresses antibiotic selection

Future measures likely more supply dependent, e.g.,
- Pressure ulcers stages III and IV
- Falls and trauma
- Vascular catheter-associated infections
- Catheter-associated urinary tract infects

Spending per Medicare beneficiary also being considered

\(^*\) All part of Hospital Inpatient Quality Report (IQR)
Can You Do the Math?

Total cost of ownership of supplies?
Total cost of procedures?
Which supplies reduce infection rates, prevent falls?
Which supplies contribute to improved patient satisfaction?
When it makes sense to use a higher priced product?

Supply Chain by the Numbers

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>40-45%</td>
<td>Total hospital operating expenses represented by supply chain*</td>
</tr>
<tr>
<td>2022</td>
<td>Year supply chain (all non labor spend) could supersede labor costs at a leading IDN</td>
</tr>
<tr>
<td>35-45%</td>
<td>Percentage of some implant costs attributed to higher costs to serve</td>
</tr>
<tr>
<td>$1,000</td>
<td>Additional revenue needed to equal impact of $1 in OPEX reduction**</td>
</tr>
<tr>
<td>5-15%</td>
<td>Potential supply chain cost reduction with better chain management**</td>
</tr>
<tr>
<td>2-4%</td>
<td>Better operating cost ratios for those investing in supply chain automation***</td>
</tr>
</tbody>
</table>

Supply chain can play an important role in meeting the challenges of healthcare reform.

Source: Gartner Research  ** Source: Thomson Reuters  ***Source: Oracle Health Insights
From Price to Value

- **Price**
  - **Value Focus**
  - **High**
  - **Cost Focus**
  - **Broad**
- **Low**
- **Patient**
- **Supply Chain Focus**

- **Best Price**
- **Total Cost of Ownership**
- **Total Cost to Serve**
- **Total Cost of Care**
- **Total Value of Care**

**Degree of Collaboration**

Total Cost of Ownership

**Price Paid for a Product or Service**

- **Acquisition Costs**
- **Logistics**
- **Clinician time spent on supply chain activities**
- **Reimbursement**
- **Cost to Serve**
- **Inventory Management and Risk**
- **Cost of Complications**
- **Cost of Complications**
**Cost to Serve**

SG&A costs much higher in healthcare than other industries

<table>
<thead>
<tr>
<th>Segment</th>
<th>Mean</th>
<th>Mean</th>
<th>Mean</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pharma</td>
<td>33%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biotech</td>
<td>29.8%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Generic</td>
<td>23.9%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical Device</td>
<td>32.7%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Three Year Weighted SG&A Expense As a % of Revenue*


Segment Mean: 17.51%

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**Cost of Care: Data is Key**

Supply Chain Automation Drives Efficiency and Better Clinical Data
Data Delivers Value

- Increased focus on accountability
- Data is a strategic asset
- Linking supply chain and clinical data provides insights into:
  - Quality
  - Safety
  - Financial and clinical performance
- Potential to bring value to provider organizations by strengthening their ability to deliver high-value health care.

Margin Pressure – Cost Imperative

Current and Anticipated Payment Pressure Will Squeeze Margins and Force Providers to Move from Managing Operating Costs to Rethinking the Organization’s Overall Cost Structure

- Increased focus on process improvement
- Non-core/competency service lines and activities being phased out
- Non-strategic assets being monetized
- Population health management will be used as a strategy to manage employee benefit costs
- Clinical management of uninsured/under-insured patient populations will increase to prevent minor conditions from becoming costly events
- Administrative services that are non-value additive will be pooled/outsourced
- A cadre of physician leadership is necessary to improve the efficiency of care delivery
Providers Ready for Value-based Care

*How will you respond to recession?*

<table>
<thead>
<tr>
<th>Statement</th>
<th>Highly Agree</th>
<th>Somewhat Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved results from process improvement</td>
<td>84%</td>
<td></td>
</tr>
<tr>
<td>Increased attention to business performance</td>
<td>83%</td>
<td></td>
</tr>
<tr>
<td>Increased collaboration between finance &amp; operations</td>
<td>82%</td>
<td></td>
</tr>
<tr>
<td>Increased consideration of clinical business performance</td>
<td>81%</td>
<td></td>
</tr>
<tr>
<td>Increased awareness of business performance among nonfinancial staff</td>
<td>77%</td>
<td></td>
</tr>
<tr>
<td>Improved perception of finance as a resource</td>
<td>67%</td>
<td></td>
</tr>
<tr>
<td>Increased consideration by physicians of business performance</td>
<td>58%</td>
<td></td>
</tr>
<tr>
<td>Increased consideration by nurses of business performance</td>
<td>55%</td>
<td></td>
</tr>
</tbody>
</table>

Source: Healthcare Financial Management Association

Supply Chain at the Intersection of Cost-Quality-Outcomes
Supply Chain at the Intersection of Cost-Quality-Outcomes

The AHRMM CQO Movement

The CQO Movement looks at the intersection of CQO meaning the relationships between:

- **cost** (how it relates to the cost of services, products, supplies)
- **quality** (how it relates to the quality of patient care, the services provided) and
- **outcomes** (how it relates to patient outcomes, patient care, patient experience, reimbursement) ...as opposed to viewing each in separate silos.

Offering educational programs to supply chain professionals in three areas: Quality & Cost, Reimbursement and Outcomes, and Continuum of Care

For more information, visit: www.ahrmm.org/cqo
Case Study: Reducing Needle Stick Injuries

- >800,000/yr in US
- Risk of blood borne pathogens
- Education only means of addressing

Case Study: Reducing Needle Stick Injuries

- New syringes with improved safety mechanisms

BEFORE

AFTER
Case Study: Reducing Needle stick Injuries

What is Unique About its Clinical Performance to Justify its Cost?

1 Needlestick injury/6000 injections

Average cost of testing/treatment after injury equals $3000

Additional costs of treatment can add up to hundreds of thousands
# Cost Perspective: Conventional Safety Syringes

<table>
<thead>
<tr>
<th>Actual Historical Spend</th>
<th>Needlestick Injury Benchmark</th>
<th>Total Cost of Needlesticks/Needles</th>
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<tbody>
<tr>
<td>Average purchase price</td>
<td>$0.2207</td>
<td>Needlestick Injuries</td>
</tr>
<tr>
<td>Units</td>
<td>158,700</td>
<td>Per Needlestick Cost</td>
</tr>
<tr>
<td>Purchase Cost</td>
<td>$35,027.00</td>
<td>Total Needlestick Cost</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$111,000.00</td>
</tr>
</tbody>
</table>

**SUPPLY CHAIN INTERVENTION: DECREASE SAFETY SYRINGE PRICE BY 15%**

<table>
<thead>
<tr>
<th>Average purchase price</th>
<th>$0.1876</th>
<th>Needlestick Injuries</th>
<th>37</th>
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</thead>
<tbody>
<tr>
<td>Units</td>
<td>158,700</td>
<td>Per Needlestick Cost</td>
<td>$3,000.00</td>
</tr>
<tr>
<td>Purchase Cost</td>
<td>$29,772.95</td>
<td>Total Needlestick Cost</td>
<td>$111,000.00</td>
</tr>
<tr>
<td>Total Savings</td>
<td>-15%</td>
<td>0%</td>
<td>-3.60%</td>
</tr>
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# Safety Perspective: New vs. Conventional Safety Syringes

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**SUPPLY CHAIN INTERVENTION: CONVERT TO IMPROVED SAFETY SYRINGES**

<table>
<thead>
<tr>
<th>Average purchase price</th>
<th>$0.3112</th>
<th>Needlestick Injuries</th>
<th>27</th>
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<tr>
<td>Units</td>
<td>158,700</td>
<td>Per Needlestick Cost</td>
<td>$3,000.00</td>
</tr>
<tr>
<td>Purchase Cost</td>
<td>$49,387.44</td>
<td>Total Needlestick Cost</td>
<td>$81,000.00</td>
</tr>
<tr>
<td>Total Savings</td>
<td>-41%</td>
<td>-27%</td>
<td>-10.71%</td>
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</tbody>
</table>
Clinical Performance Data


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Case Study:  
Right Product, Right Patient

Abdominal wall reconstruction with challenging hernia patient

Hernia patients with major complications & comorbidities account for about 7% of all hernia repairs

Challenge with patient’s ability to rapidly revascularize

Challenge with patient’s ability to integrate into host tissue

Biologic or Synthetic?
Case Study: Right Product, Right Patient

By Price and Reimbursement Only:

<table>
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<tr>
<th></th>
<th>SYNTHETIC MESH</th>
<th>BIOLOGIC MESH</th>
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<td>Cost of product</td>
<td>$2,000</td>
<td>$13,000</td>
</tr>
<tr>
<td>Reimbursement</td>
<td>-$2,000 (100%)</td>
<td>-$10,400 ($32.25)</td>
</tr>
<tr>
<td>Product cost</td>
<td>$0</td>
<td>$</td>
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Case Study: Right Product Right Patient

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Challenge with patient’s ability to rapidly revascularize

Challenge with patient’s ability to integrate into host tissue
Case Study: Right Product, Right Patient
Potential Economic Impact to Hospital

<table>
<thead>
<tr>
<th>Hernia Post-op Complication</th>
<th>Potential average cost ¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infected mesh explant</td>
<td>$30,721</td>
</tr>
<tr>
<td>Infection</td>
<td>$11,739</td>
</tr>
<tr>
<td>Small bowel obstruction/other GI complication</td>
<td>$16,069</td>
</tr>
</tbody>
</table>

Potential cost of post-op complications related to ventral/incisional hernia repair

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Case Study: Right Product, Right Patient
Mesh by the numbers: More than product cost

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<td>-$10,400 ($32.25)</td>
</tr>
<tr>
<td>Product cost</td>
<td>$0</td>
<td>$</td>
</tr>
<tr>
<td>Cost of infection/avoidance</td>
<td>+$11,739</td>
<td>-$11,739</td>
</tr>
<tr>
<td>Total Costs</td>
<td>+$11,739</td>
<td>-$8979</td>
</tr>
</tbody>
</table>
Case Study:
Right Product, Right Patient

Value Justification
• Consistent outcomes
• Single stage
• Decreased complication rates
• Avoidance of further surgery

Clinical Performance Data
Strattice™ TM outcomes in peer-reviewed clinical publications

<table>
<thead>
<tr>
<th>Author</th>
<th># of Patients</th>
<th>Patients with post-op infections</th>
<th>Explants</th>
<th>Recurrences</th>
<th>Mean Follow-up (months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total / %</td>
<td>116</td>
<td>6 / 5.2%</td>
<td>0 / 0.0%</td>
<td>3 / 2.5%</td>
<td>14.1</td>
</tr>
<tr>
<td>Rosen MJ, et al.</td>
<td>12</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>14.0</td>
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<tr>
<td>Patel KM, et al.</td>
<td>41</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>15.8</td>
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<tr>
<td>Butler CE, et al.</td>
<td>38</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>12.4</td>
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<tr>
<td>Cicilioni O, et al.</td>
<td>25</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>14.0</td>
</tr>
</tbody>
</table>
Case Study: TEE Probe

- New Transesophageal Probe requested
- Single patient use cost ~$1,000
- No additional reimbursement
- Claim to provide better information on which to base clinical decisions
- Limited historical information
- Small amount of available evidence to support use

Case Study: TEE Probe

- Set up multidisciplinary team to study and evaluate the product
  - Physicians
  - Nurses
  - Supply Chain
  - Finance
- Established evaluation goals, measures of success, and evaluation time period
- Began use of product
- Tracked and monitored patients on which device was used
Case Study: TEE Probe

- Evaluation demonstrated that the technology
  - Eliminated unnecessary re-surgical interventions as a result of better information (non-reimbursed)
  - Resulted in change to hemodynamic management
  - Reduced LOS in ICU and overall
  - Reduced need for pressors
- Approximately 47% of patients receiving the device realized a change in treatment or avoidance of an unnecessary surgical procedure
- Net savings to the hospital ~$95,000

Case Study: Underpads

- New ‘improved’ underpad requested
- New product more costly than current with expected reduction in utilization to offset cost
- Product expected to reduce number of SKUs by replacing all similar products
- Product claim to reduce skin breakdown due to improved product performance
Case Study: Underpads

- Product trialed for acceptability
- New product rolled out to entire institution
- Competing products removed from use

Subsequent supply cost analysis indicates substantial increase (~$250k) in spend on underpads vs. baseline
- Investigation of utilization indicates no change in practice in usage of pad
- Review of HAPU indicates no improvement in incidence of pressure ulcers or skin complications
- Underpad removed from facility, revert to previous product
- Focus team assembled to review and recommend direction
Build Core Capabilities Around Value

The Strategic Capabilities to Improve Value are Mutually Reinforcing

- Collaboration, accountability, and communication
- Data and metrics
- People and Culture
- Business Intelligence
- Performance Improvement
- Contract and Risk Management
- Elimination of variation, unsafe practices, and waste
- Measurement, assessment, and mitigation of risk

Organizational Recommendations

- Develop the four-driving capabilities NOW
- Embrace strategic agility
- Seek stakeholder alignment around a common set of metrics
- Explore strategic partnerships with payers, employers, and patients in your service area
- Prepare to differentiate the effectiveness of care provided within a value-driven, competitive marketplace
- Tap into your supply chain as a strategic resource

http://www.hfma.org/valueproject/
Key Takeaways

• Form clinical-financial-supply chain teams
• Approach decision making from a value perspective
• Make decisions based on a full set of data
• Build the technology infrastructure to capture, share and analyze data
• Invest in analytical skills
• Create the right incentives
• Communicate value to all stakeholders

Thank You

Questions? Want to explore further?

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Karen Conway
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