Commercial Bundle Program for Total Joint Replacements

2015 Pilot – Henry Ford West Bloomfield Hospital

Presentation to University of Michigan, Industrial and Operations Engineering

Andrea McAuliffe
March 25, 2015
Agenda

• Background
• Measuring “True Costs” and Quality to Improve Value
• Improving Value
• Creating a Commercial Bundle Product & Partnership with HAP
Background

Strategic Imperatives to Bundle and Our Response

Value of a Bundle
IHI’s Learning Collaborative
Background

Current State and Market Trends

• Fee For Service
  – Multiple providers
  – Multiple locations
  – Multiple bills
• Bundled Products
  – Coordinates care across the episode
  – Places providers at risk for patient outcomes, quality, and costs
  – Provides comprehensive and affordable care for the consumers and employees
  – Offers one transparent cost for the entire episode
• Major Players: BCBS, Wal-Mart, Lowe’s, Cleveland Clinic
  – Emerging Trend: Employer Coalition partnerships w/ providers
Participation in Institute of Healthcare Improvement’s (IHI) Learning Collaborative

**HFPN and WBH learning partnership**

Objectives of participating in IHI’s Learning Collaborative

- Measure and improve costs and outcomes to increase value
- Compare costs and outcomes with other providers across the Nation

Overarching Objectives for HFHS

- Offer the first commercial bundle product in the Michigan market
- Leverage cost and outcome information to inform market pricing, value proposition and reduce waste
- Grow market share with “first mover” advantage
Measuring “True Costs” and Quality to Improve Value

Overview of TDABC Methodology
Episode of Care
Process Maps
Capacity Cost Rates
Identify Opportunities
Overview of TDABC*

1. Determine care processes
   What Activities; Who is Performing; Time taken

2. Calculate cost rates
   Cost per minute for each personnel

3. Account for Consumables
   Materials, supplies, Drugs

4. Allocate Indirect Costs

* TDABC – Time Driven Activity Based Costing
Determine Care Process Across Care Cycle

**Level 1: Overall care cycle**
- Patient problem
- Assess appropriateness
- Assess risk
- Schedule OR
- Procedure
- Recovery

**Level 2: Study care cycle**
- Map 1: Surgical consultation
- Map 2: Pre-operative testing
- Map 3: Day of surgery pre-operative prep
- Map 4: Operation
- Map 5: Post-anesthesia care unit
- Map 6: Discharge
- Map 7: Rehabilitation
- Map 8: Follow-up visit

**Level 3: Process maps**
- Map 2
Process Map for Initial Consult Visit - Example
Calculate Capacity Cost Rate - Example

Data are illustrative

<table>
<thead>
<tr>
<th></th>
<th>Attending Physician</th>
<th>Orthopedic Fellow</th>
<th>Physician Assistant</th>
<th>Medical Assistant</th>
<th>Research Assistant</th>
<th>Receptionist</th>
<th>Coordinator</th>
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<tbody>
<tr>
<td>Total Clinical Costs ($)</td>
<td>$ 546,400</td>
<td>$ 120,000</td>
<td>$ 100,000</td>
<td>$ 64,000</td>
<td>$ 51,000</td>
<td>$ 61,000</td>
<td>$ 57,000</td>
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<tr>
<td>Personnel Capacity (minutes)</td>
<td>91,086</td>
<td>89,086</td>
<td>89,086</td>
<td>89,086</td>
<td>89,086</td>
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<tr>
<td>Personnel Capacity Cost Rate ($/min.)</td>
<td>$ 6.00</td>
<td>$ 1.35</td>
<td>$ 1.12</td>
<td>$ 0.72</td>
<td>$ 0.57</td>
<td>$ 0.68</td>
<td>$ 0.64</td>
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</table>
Total Personnel Costs Across Cycle of Care

<table>
<thead>
<tr>
<th></th>
<th>Minutes</th>
<th>Cost/minute</th>
<th>Total</th>
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<tbody>
<tr>
<td>Initial consultation</td>
<td>MD</td>
<td>$Y_1$</td>
<td>$X_1$</td>
</tr>
<tr>
<td></td>
<td>RN</td>
<td>$Y_2$</td>
<td>$X_2$</td>
</tr>
<tr>
<td></td>
<td>CA</td>
<td>$Y_3$</td>
<td>$X_3$</td>
</tr>
<tr>
<td></td>
<td>ASR</td>
<td>$Y_4$</td>
<td>$X_4$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surgical procedure</td>
<td>MD</td>
<td>$Y_1$</td>
<td>$X_1$</td>
</tr>
<tr>
<td></td>
<td>Anes.</td>
<td>$Y_2$</td>
<td>$X_2$</td>
</tr>
<tr>
<td></td>
<td>RN</td>
<td>$Y_3$</td>
<td>$X_3$</td>
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<tr>
<td></td>
<td>Tech</td>
<td>$Y_4$</td>
<td>$X_4$</td>
</tr>
<tr>
<td></td>
<td>OR</td>
<td>$Y_5$</td>
<td>$X_5$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Follow-up or post-operative visit</td>
<td>MD</td>
<td>$Y_1$</td>
<td>$X_1$</td>
</tr>
<tr>
<td></td>
<td>RN</td>
<td>$Y_2$</td>
<td>$X_2$</td>
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<tr>
<td></td>
<td>CA</td>
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<tr>
<td></td>
<td>ASR</td>
<td>$Y_4$</td>
<td>$X_4$</td>
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</tbody>
</table>

Total Personnel Costs:
- Initial consultation: $266.08
- Surgical procedure: $1752.15
- Follow-up or post-operative visit: $73.66
Total Joint Replacement Episode of Care (EOC) Costs

**Direct Costs**
- Personnel Costs ($/min)
  - Salary
  - Benefits
  - # work days/yr
  - Capacity/day
- Consumable Costs (Acquisition costs)
  - Implants
  - Surgical materials
  - Drugs
  - DME
- Other Direct Costs ($/procedure)
  - Rent
  - Repair Maintenance
  - Plant Ops
  - Other Admin

**Indirect Costs**
- Support Services
- Malpractice
- Corporate Allocation
- Interest

**Purchased Services**
- Post-Acute Care (Home Health, SNF, IR)
  - Contracted rates*

**Projected Total Cost Range**
Costs for Other Admin, Other Contracted, Plant Operations, Repairs & Rent are allocated by Surgical Services and Pro-Rated for Total Joint Replacement as a Direct Cost/procedure.
TDABC Costing
v/s
Charge-Based Costing
Case Study Example – Boston Children’s Hospital

• Microcosm of current health care climate
  – In 2006 expanded insurance coverage to all state residents
  – In 2008 the state formed the State Commission on Health Care Payment Systems
    • Purpose: to address rising health care costs
    • Recommendation: providers transition to a risk-adjusted global payment model

• Boston Children’s Hospital (BCH), MA
  – Free-standing hospital; highly specialized pediatric care
  – Reported higher costs (and prices) than local pediatric wards
  – BCH was being excluded from certain insurance options
  – More accurate cost information would help with payor negotiations
Case Study Example – Boston Children’s Hospital

- Reviewed 3 types of New Patient Office Visits
  - Plagiocephaly
  - Neoplasm skin excision
  - Craniosynostosis
- Charge based costing – Ratio of Costs to Charges (RCC)
  - Assumes costs are proportional to charges
  - RCC rate - 60% of charges
- Implemented TDABC methodology
- TDABC v/s RCC comparison

<table>
<thead>
<tr>
<th>Office Visits</th>
<th>Charges</th>
<th>Average Reimbursement</th>
<th>RCC Cost</th>
<th>RCC Profit</th>
<th>TDABC Cost</th>
<th>TDABC Profit</th>
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<tbody>
<tr>
<td>Plagiocephaly</td>
<td>$ 350</td>
<td>$ 224</td>
<td>210.00</td>
<td>14.00</td>
<td>108</td>
<td>116.50</td>
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<tr>
<td>Neoplasm skin excision</td>
<td>$ 350</td>
<td>$ 224</td>
<td>210.00</td>
<td>14.00</td>
<td>155</td>
<td>68.64</td>
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<tr>
<td>Craniosynostosis</td>
<td>$ 350</td>
<td>$ 224</td>
<td>210.00</td>
<td>14.00</td>
<td>204</td>
<td>20.43</td>
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Improving Value
Opportunity #1: Post-Acute Care

Current State
• Discharge planning occurs during inpatient stay
• Patients go home with home health care or sub-acute rehabilitation
• Post Acute Care
  – Has the largest variation in cost and quality
  – Is least understood
  – Has the most impact on post-surgery recovery of joint function
  – Influences readmission rate
Improvement Efforts: Pre-Operative Discharge Planning Before Surgery

Pre-operative discharge planning and communication during pre-op consult visit

- Sets expectations at the beginning of the episode
- Minimizes patient’s anxiety during inpatient stay
- Allows patient and family to plan and prepare ahead
- Increases % discharged home

Discharge to Home

- Cost-effective, higher patient satisfaction and better outcomes
- Minimizes exposure to hospital infections at rehabilitation centers
- Determined by social support of patients
Pre-operative Discharge Planning Process

Implemented a pre-operative discharge planning process
  – Modified survey to assess social support & home care needs
  – Incorporate results of survey into education class teaching
  – Hired a dedicated joint coordinator to guide the patient throughout the episode of care
  – Reinforced discharge plan by surgeon during pre-op visit

Monitored quality and outcome measures- Monthly
Projected Cost Savings per Case

**Original Discharge Disposition**
- Home: 75%
- Sub-Acute Rehab: 24%
- Inpatient Rehab: 1%

**October 2014 Discharge Disposition**
- Home: 80%
- Sub-Acute Rehab: 20%
- Inpatient Rehab: 1%

<table>
<thead>
<tr>
<th>Increase in % Discharged Home to</th>
<th>Projected Cost Savings/ Case</th>
</tr>
</thead>
<tbody>
<tr>
<td>85%</td>
<td>$771</td>
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<tr>
<td>90%</td>
<td>$1155</td>
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</table>
Creating a Commercial Bundle Product
Discussions with Health Alliance Plan (HAP)

- Initiated in April 2014
- Workgroups formed to assess
  - Financial impact
  - Market needs in Michigan and nationally
  - Operational requirements

- Next Steps:
  - Collect and analyze industry specific data
  - Continue to develop the product with the HAP team
  - Present the product pitch to one of HAP’s third party administrators (TPA)
What We’ve Learned

Time Driven Activity Based Costing
• Is a valuable exercise to understand your true costs
• Requires engagement from the entire care team and support services (finance, supply chain, HR, etc.)
• Takes multiple meetings and revisions to accurately map out the current process

Bundled Payment
• Requires detailed understand of costs and market prices in order to produce a competitive and sustainable product
• Is recognized but not well understood in the Michigan market
Questions?