The Power of Six Sigma in Procurement

Debbie Beavin, CPO
December 3, 2010
Discussion Points

• A Humana Inc. Overview

• Fueling Innovation and Growth

• Six Sigma at Humana... and within Procurement

• Lessons Learned
Our Dream

Help People Achieve Life-long Well-being.
Humana’s Well-Being Approach

The Full Spectrum of Well-Being
Living happily with a balanced sense of purpose, belonging, security & health

Purpose
- Service
- Vocational
- Advocacy

Belonging
- Social
- Community
- Family

Health
- Physical
- Emotional
- Spiritual

Security
- Financial
- Personal Safety
- Family
- Environmental
In 1961, two young lawyers from Kentucky, David A. Jones and Wendell Cherry, had started a nursing home business. Jones and Cherry plus 4 other partners created Heritage House and Extendicare. By 1968, the company owned 7 nursing homes. Exited business in 1972.

During the early 1980's, Humana had become the largest hospital company in the world — owning over 80 hospitals around the globe. Hospitals were “spun off” into a separate entity in 1993.

Humana expanded into the health insurance industry in 1984, offering affordable HMO plans. Humana currently offers a range of health plans for the needs of individuals, families, and businesses. Located in Kentucky with headquarters in Louisville.
External Factors

- Manufacturing Economy
  - Goods
  - Equipment
  - Efficiency
  - Productivity

- Knowledge Economy
  - Information
  - Human Capital
  - Effectiveness
  - Intelligence

- Collaborative Economy
  - Experience
  - Social Capital
  - Innovation
  - Engagement
Fueling Innovation and Growth

Personal Nurse

SmartSummary

Humana Access Card

RightSource, prescription mail order delivery

MyHumana

Tools:
- Physician Finder
- Family Health
- Budget
- Enrollment Wizard

Humana Games4Health

WellZone.org
Operating Commitments

- Commitment to associate value principle
- Perfect service and engagement
- Collective responsibility for prioritizing business initiatives
- Everything considered / everyone plays
- Sustainable long-term view
- A focus on talent
Collective Responsibility for Prioritizing Business Initiatives

Think “few.” Concentrate on the essentials. Figure out what to ignore. 
Be *sharply-pointed* rather than well-rounded

Align with the Strategy. Pursue the Strategy. 
*Grow toward the sun*

Identify the “value drivers” in your organization 
Get your team engaged as *business people*

Everyone needs to be sufficiently informed 
*Circulate. Link* people up. *Orchestrate* conversations.
All leaders demonstrate appropriate use of Humana’s resources and finances

*Behave like you’re in business for yourself*

Savings opportunities are everywhere

*Listen up, leader. Ask your team*

Focus on adapting and thriving

*Model adaptability*
Six Sigma

At Humana Inc.
## Six Sigma Process Improvement Methodology

### Define
- What’s important to the customer?
  - VOC Research
  - Customer CTQs

- What’s the business case?
  - Process Understanding
  - Scoping

- What’s in it for me?
  - What’s the Plan?
  - Project Plan and Charter
  - Team Communication Plan

### Measure
- How is performance measured?
  - Define Data Type(s)
  - Operational Definition(s)

- Do you have good data?
  - Potential X(s)
  - Measurement System Analysis
  - Determine Appropriate Sample
  - Data Collection Plan

- What is the baseline?
  - Descriptive Statistics
  - Capability Analysis
  - Performance Goal

### Analyze
- What X(s) matter most to the goal?
  - Descriptive Statistics Analysis

- What is the impact on the Y?
  - Inferential Statistics Analysis

- Why are these X(s) happening?
  - Descriptive Statistics
  - Capability Analysis
  - Performance Goal

### Improve
- Do these X(s) influence the Y?
  - Demonstrated Relationship

- What is the solution?
  - Solution Screening
  - Solution Refinement

- Did the solution work?
  - Statistical Pilot Results
  - CBA

### Control
- How will we ensure?
  - Controls for Vital X(s)

- What if something goes out of control?
  - Control Plan
  - Tracking for Y(s) and X(s)
  - Transfer to Process Owner
  - Project Validation Scheduled

**VALIDATION:**
**What did we learn and next steps?**
- Final Documentation and Signoff
- Lessons Learned
- Follow-Up Projects
- Team Celebration
1. What is Six Sigma?

Practical Review of Six Sigma: 6σ Basics

Practical Meaning of “99% Good”

- 20,000 lost articles of mail per hour
- Unsafe drinking water almost 15 minutes out of each day
- 2 short or long landings at most major airports each day
- No electricity for almost 7 hours each month

<table>
<thead>
<tr>
<th>Process Capability</th>
<th>Defects per Million Opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>2σ</td>
<td>308,537</td>
</tr>
<tr>
<td>3σ</td>
<td>66,807</td>
</tr>
<tr>
<td>4σ</td>
<td>6,210</td>
</tr>
<tr>
<td>5σ</td>
<td>233</td>
</tr>
<tr>
<td>6σ</td>
<td>3.4</td>
</tr>
</tbody>
</table>

(Distribution Shifted ± 1.5σ)
Process Improvement Phases

1. What is Six Sigma?

DMAIC phases

Define – Clarify the problem to be solved, identify the key stakeholders and customers, develop a clear charter relevant to customer needs.

Measure – Document baseline performance of the process related to the problem, validate the measurement.

Analyze – Identify root causes (the “Xs”) of the problem and quantifies their effect on process performance.

Improve – Develop, select and test best solutions while minimizing the risk of change.

Control – Ensure the solutions are ‘permanently embedded’ in the process with robust controls to ensure sustainability and consistency.

Sponsor reviews are conducted as part of the sign off for each phase.
DMAIC Project Requirements

1. What is Six Sigma?

   • Strategic Alignment
   • Return on Investment
   • Problem is clear - Solution Unknown
   • Project Scope and Training Cycle
   • Geography (complexity, location(s), areas impacted)
   • Support
   • Data

6σ Basics

DMAIC Requirements

Project/Student requirements
DMAIC Student Requirements

1. What is Six Sigma?

- Process/Work Experience
- Process Analysis Role
- Time Commitment
- Sponsorship
- Passion

6σ Basics

DMAIC Requirements

Project/Student requirements
Effective Goal Statements

- Describe desired/planned new performance
- Are as objective as possible
- Are also brief and use common vs. tech. terms
- Do not include causes or imply solutions
- May include estimates or placeholders (x%)
- Are often reviewed after Measure & Analyze
  [example: Our deliveries must be within +/- 1 hour 98% of the time by year end]
Capturing Plans and Tracking Progress

The Charter

Problem Statement: (The “As Is” Statement: One sentence explaining what problem or need the team is being formed to address. Remember to make the Problem and Goal statements SMART: Specific, Measurable, Attainable, Relevant, Time-bound)

Objective/Goal: (The “Desired State” Statement: One sentence explaining what the goal or objective is related to the Problem Statement above. State how success of the team will be measured. What will be the specific, measurable, Attainable, Relevant, Time-bound)

Background: (Briefly explain what led to the need for this project. Explain any history that would be applicable to understanding the problem or need. State the problem or need in terms of customer service, financial impact, and/or productivity. Include current compared to targeted performance and any costs associated with the problem from a Cost/Benefit Analysis, if one was prepared)

Business Area:

Business Strategy Supported by this Project:

Scope:

Interdependencies:

Customers and CTQs:

Anticipated Benefits (Financial/Other):

Time Line/Key Milestones:

Start Date:              Completion:

Team:

Project Manager:

Facilitator:

Customer:

Performance Indicator:

Manager/Sponsor: [insert typed name]  Sponsor/Champion: [insert typed name]

Performance Improvement:

Concierge Savings

[insert chart showing current and targeted performance]

Validated Results

Executive Summary

The Opportunity

The Continuous Improvement Story

“Your Project Name” (for the creator view)

Project Team

- Six Sigma Level: [insert level]
- Business Area: [insert business area]
- Sponsor: [insert sponsor name(s)]
- Project Leader: [insert project leader name(s)]
- Team Members:
  - [insert Team member names]
  - Project #: [insert project number]
  - Six Sigma Coach(s): [insert coach name(s)]
- Project Start: [insert start date]
- Project Closeout: [insert closeout date]
- Certifications: [insert any certificates accomplished]

Analysis & Improvement

- Baseline CCG Performance: [insert baseline data]
- Project CCG Performance: [insert project data]
- X% Improvement in defects: [insert improvement percentage]

Root Causes Found

- [insert root cause(s) and corrective action(s)]

Validated Results

Business Benefits:

- [insert summary of hard and soft benefits]

Insert a control chart showing before and after performance levels (a table of before and after would also be substituted)
Quality Engineering: Enterprise Support

Our Services
Since 2003, Quality Engineering has been effectively showing Humana associates how to improve processes using industry-leading methodologies.

- **Six Sigma** reduces defects or improves design.
- **Lean** eliminates "waste" or non-value added process steps.
- **PMCS** establishes process measures and controls.
- **Process Prediction** predicts key processes using experimentation & data.
- **Consulting** helps you explore, define and achieve strategic opportunities.
- **Lunch and Learn** sessions focus on quality tools.
- **Yellow Belt** sessions provide an introduction to Six Sigma tools and concepts.
- **Certification Opportunities** for Six Sigma and Lean

*Our services are provided by experienced quality professionals dedicated to data-driven process improvement.*
Within Procurement
Humana’s Six-Step Procurement Process

**Internal Analysis**
- Analyze spend
- Analyze usage and transactions
- Analyze/engage stakeholders and users
- Analyze products, services, and related contracts
- Analyze supplier and client relationships
- Map current processes/identify process improvement

**External Analysis**
- Identify potential sources of supply
- Evaluate supply markets
- Perform benchmarking analysis
- Evaluate macro-economic factors

**Sourcing Process**
- Refine scope, specifications, and requirements
- Consider potential process redesign
- Develop sourcing strategy
- Coordinate and manage stakeholders
- Develop evaluation tool/model

**Negotiations And Contracts**
- Negotiate with all suppliers
- Narrow supplier pool to a “short list” for further negotiations
- Lead final negotiation/select suppliers
- Finalize terms, conditions, Service Level Agreements (SLAs), and performance requirements

**Implementation**
- Develop rollout plan, communications strategy, and end-user training/support plan
- Begin transition to new supplier and/or process
- Execute rollout plan, communications strategy, and end-user training/support plan
- Develop/value chain/enablement process
- Begin metrics reporting and tracking

**Category Management**
- Monitor supplier performance and report savings
- Develop/implement supplier relationship management process
- Perform post-implementation/ongoing operations audit
- Conduct frequent internal/external analysis (e.g. spend, usage, industry process)
When is the “right time” for Six Sigma?

Supplier Relationship Methodology & Approach

- On-Going Process vs. an Event
- Key Objective: Maximizing Value

**Procurement Process**
- Spend analysis
- Development of sourcing strategy
- Supplier evaluation
- Supplier selection
- Contract Negotiations

**Post-Deal Relationship Management**
- Joint business planning
- Quarterly business reviews
- Joint business/implementation
Six Sigma Trending within Procurement

Projects ($, ☰):
- External Recruiting Engagement
- Workspace Build-Outs: Furniture Purchase Management
- Medical Record Retrieval Management
- Postage Utilization
- Return Mail Management
- Approved Supplier Process Management
- Check Request Process Improvement
- Requisition to Purchase Order Release Cycle Time (UK)
- Promotional Goods Management
- Requisition Entry Accuracy
- Check Request Management
- Fleet Management
- Approved Supplier Management
- iProcurement Utilization
- Outside Services Spend Management
- M&A Integration
- Purchase Order Utilization
- Non Catalog Order Reduction
- Purchase Order Transmission
- e-Enabled Purchases
- Contingent Labor Management

Certification: Trend Overtime within Procurement

<table>
<thead>
<tr>
<th>Year</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>30</td>
<td>35</td>
<td>40</td>
<td>45</td>
</tr>
</tbody>
</table>

Six Sigma Certified
Total staffing

HUMANA
Measures of Success: Process and Results

**Process Measures:**

- Requisition to Purchase Order (PO) Cycle Time
- Contract Cycle Time
- Government Purchasing Need-by-Date Compliance
- Competitive Awards
- PO Adoption
- PO Date to Invoice Date Compliance
- Supplier Self-Sufficiency
- Electronic Payments
- Approved Supplier Adoption
Results Measures:
• Productivity
• Diversity Spend
• Supplier Rationalization
• eProcurement Adoption
• Cash Generation

Measures of Success: Process and Results

- Productivity
- Diversity Spend
- Supplier Rationalization
- eProcurement Adoption
- Cash Generation

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Spend (MM)</th>
<th>e-Enabled Spend (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Savings, excluding Cost Avoidance
- Active Suppliers
- Diverse Supplier Spend (Minority & Women-Owned Businesses)
Internally Focused “Lean” Six Sigma Opportunity: Creating a measurement system to enable us to drive continuous improvement (“do the right things well”)

Current state: Today, we are unable to accurately track the cycle time through the procurement process absent adequate time stamps, variance in the definition of an “initiative” (or matter), and the resulting inconsistency of information reported.

It is important to solve these problems because we wish to:

1. Deliver quality procurement
2. Effectively/accurately communicate process
3. Manage business partner expectations
4. Collaborating to maximize value
5. Minimize NVA effort
6. Effectively/efficiently complete VE and VA tasks
7. Monitor and address variation over time

Desired state: Accurate tracking of the cycle time through the procurement process, common definition of an “initiative” and key process steps, and actionable reporting
Lean Six Sigma Procurement Process Improvement Guidelines

- Robust view of the procurement process
- Data based approach
- Avoid unnecessary complexity
- If there is “low hanging fruit” – Pick it! (aka Just do it!)
- Focus on value creation:
  1. business partner/customers thinks it adds value OR
  2. has to change something AND
  3. has to be done correct the first time
- Acknowledge this is not a “once and done” activity – iterative, continuous
- Everyone participates/has a voice
- If you disagree, engage in productive, respectful debate
Request to Delivery: Time Stamps

**Cycle Times:**
- Request to Requirement defined (1,2)
- Requirement Defined to Supplier Selection (2,3)
- Request to Contract Execution (1,6)
- Contract Initiation to Contract Completion (4,6)
- Contract Complete to Contract Execution (5,6)
- Contract Execution to Project Completion (6,7)

*Note: End point for Business Partners is when Goods/Services are being delivered*
Lessons Learned

• “Avoid Pushing on a Rope” -- Get and keep all key business partners engaged and **steadily foster collaboration**

• Intentionally **drive personal and business value**

• “Eat the elephant one bite at a time” -- **Focus on** the criteria in **pieces**

• “Don’t build a marble stair case…” – **Let the data guide you** to the analysis and tools that make sense. If it’s a “just do it” project then just do it!

• “Don’t just squeeze the balloon” -- Think **end-to-end process**

**Power rests in the questions data inspires...**

*Through effective collaboration, data-based decision making, and a commitment to sustainable improvement great things can happen!*
Final Words of Wisdom (not my own…)

“Good questions outrank easy answers.”

– Paul A Samuelson