Readiness for Lean/Six Sigma

Key success factors for integrating Lean/Six Sigma in a Healthcare setting

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Overview

- Features of Lean and Six Sigma
- Assessing organizational readiness
- Assessing personal readiness
- Ideas for next steps
Nothing endures but change.

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Is your organization prepared for change? Are you?
Lean/Six Sigma in Healthcare

Lean Six Sigma

Delight Customers

Improve Processes

Data and Facts

Quality

Speed

Team Work

Variation & Defects

Process Flow

(George, Rowlands & Kastle, 2004)
Lean: Eliminate Waste

Waste
- Inventory
- Overproduction
- Correction
- Material & Info Movement
- Processing
- Waiting
- Motion

Examples
- Documents, forms
- Excess work in process between functions
- Inspection, re-work
- Excessive hand-offs
- Admitting
- Long process time
- Poor department layout
Lean: Reduce Lead/Cycle Time

- Total time to complete one unit of service
- Time from start to finish
- Distinct beginning and end points
- Examples of radically changed cycle times: banking, delivery, communication, prototypes, prepared foods
Lean: Eliminate Non-Value-Add Activities

Value Added Activity
What customer is willing to pay for
Why customer is here (diagnosis, treatment)

Non Value Added Activity
Customer does not perceive as adding value
Any activity or use of resource that does not conform to customer’s expectation
Features of Six Sigma

- A philosophy and goal to be as perfect as practically possible
- A methodology that involves a systematic approach to problem solving, opportunity finding and improvement implementation
- A statistical measurement of 3.4 defects per million opportunities
- A symbol of quality: $6\sigma$
Six Sigma- Eliminate Defects

- **Defect**
  - A measurable characteristic of a process or its output that is not within acceptable **customer** specifications

- **Defective**
  - A process or an output that contains defects

- **Six Sigma**: 3.4 defects per million opportunities
Six Sigma Framework of Success

- Project Management
- Project Selection Infrastructure
- Customer Focus

- DMAIC Methodology
- Teamwork
- Process Orientation

Six Sigma
Six Sigma Infrastructure

- Executive Sponsor
- Steering Team
- Project Champion
- Master Black Belt
- Black Belt
- Green Belt
Six Sigma Success Factors

Culture shift

Bottom Line Emphasis

Executive Commitment

Statistical Management

Customer Delight

Training

Six Sigma
Why Choose Lean/Six Sigma?

- Customer satisfaction
- Cost reduction
- Error reduction
- Revenue generation
- Quality outcomes
- System focus
- Innovation
- Competitive advantage
Elements of Planned Excellence

- Project Plan: 3-6 months
- Guided approach: Black Belts & Green Belts
- Sponsored support: Champions
- DMAIC Process
  - Define
  - Measure
  - Analyze
  - Improve-Implement-Innovate
  - Control
Define

Establishes the business case and organizational alignment

- Articulates the voice of the customer
- Describes the scope and constraints of project
- Names the players and project timelines

Deliverables:
- Project charter
- Customer requirements statement
- SIPOC + R
- High level process map
Measure

Identifies critical input and outcome measurements

- Conducts process-level data collection
- Establishes baseline metrics
- Logically arrays data in visual depictions
- Follows statistical rigor: sampling & reporting

Deliverables:
- Baseline metrics
- COPQ
- Sigma level
Analyze

Focused attention on source of defects

- Use analytical tools to determine cause & effect relationships
- Test hypothesis with data findings

Tools:
  - Cause & effect diagrams
  - Failure Modes & Effects Analysis
  - Detailed process mapping
  - Value stream analysis
  - SPC & Pareto charts
  - Correlation & Regression analysis
Improve, Implement, Innovate

Target root causes with improvement interventions

- Maintain data-centered solutions
- Collaborate across system
- “Pilot” solutions & track outcomes
  - IE tools: Lean, simulation, DOE, etc.
- Compare to baseline metrics
- Adjust intervention (PDCA cycle)
- Prepare to “operationalize”
Control

- Perform “make good” evaluations
  - Dollars
  - Defects (Sigma level/DPMO)
- Roll-out across organization
- Handoff operational responsibility
- Monitor process metrics
- Recognize and celebrate success!
Lean/Six Sigma in Healthcare

Lean Six Sigma

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Improve Processes

Data and Facts

Team-Work

Quality, Speed, Variation & Defects, Process Flow

(George, Rowlands & Kastle, 2004)
Lean/Six Sigma in Healthcare

So, how do you know if you’re ready to pursue Lean/Six Sigma?

- What are the key considerations?
- Who needs to be involved?
- What groundwork is needed for success?
- How do I contribute & what’s my role?

ASK QUESTIONS>>>SEEK FIRST TO UNDERSTAND
Assess the Organization

What is the catalyst for change?

- Cost
- Quality
- Service

How are outcomes reported?

What is level of accountability for improving outcomes?

FIND THE BURNING PLATFORM!
Do you know the cost of quality and variation in your organization?

Three layers of the cost of quality: ~ 25% Operating budget

- Failure
  - Rework, repair, returns & liability
  - Internal
  - External

- Appraisal
  - Inspections for acceptability of use
  - Inspections during product development

- Prevention
  - Stakeholder assessments
  - Preparation for inspections

ARTICULATE THE COST OF STATUS QUO
Assess the Organization

What does the executive team care about most?
How do you know?
What is your access to key leaders?
How well do you know the strategic and operational plans?
How is performance articulated?

IDENTIFY KEY LEADERS AND THEIR PASSIONS
Assess the Organization

How is the voice of the customer heard?
Who hears it?
How often?
What action is taken?
Who is involved?

FOCUS ON THE VOICE OF THE CUSTOMER
Assess the Organization

- What are the corporate metrics?
- Who is responsible for them?
- How is this demonstrated?
- How often are they reported?
- How do they inform strategic and operational activities?
- What process level data exists?

GET FAMILIAR WITH ORGANIZATIONAL METRICS
<table>
<thead>
<tr>
<th>Measurement</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Productivity</td>
<td>Procedures/person/day, Patients/FTE/day, Hours/course/week</td>
</tr>
<tr>
<td>Inventory</td>
<td>Supplies, forms, materials</td>
</tr>
<tr>
<td>Layout</td>
<td>Total floor space utilized by process</td>
</tr>
<tr>
<td>Cycle time</td>
<td>Total time to complete one unit (procedure, test, exam, document)</td>
</tr>
<tr>
<td>Stakeholder view</td>
<td>Satisfaction surveys</td>
</tr>
</tbody>
</table>
Assess the Organization

- What is organization’s current approach to performance improvement?
- How is it structured?
- Who has accountability for reporting and results?
- What is the focus of the last 10 projects?
- What tools and software are used?
- How broadly is it trained & how often?

BECOME ‘GO TO’ PLAYER IN PI STRUCTURE
Assess the Organization

- Are project management skills pervasive?
- How are teams selected?
- What employee input forums exist?
- How would you describe the culture?
  - Friendly, open
  - Cautious, closed
  - Excited, adventurous
- What is physician involvement in change?

IDENTIFY THE CULTURAL AFFINITIES FOR CHANGE
Summary: Organizational Readiness

- Burning platform for change
- Senior executive sponsorship
- Strategic focus on the business
- Systems are alert to the voice of the customer
- Involved stakeholders
- A learning organization
- Strong performance improvement involvement
- Open culture, tolerance for failure
Personal Assessment

- How familiar are you with Lean/Six Sigma techniques?
- What are you doing to gain more knowledge?
- What would you do different with this than you are currently doing?
- Are you willing & able to take on additional work?
- What is your experience working with teams?
- Have you had formal facilitator training?

EXAMINE YOUR BELIEFS ABOUT CHANGE
Personal Assessment

How strong (& recent) are your technical skills related to work center & process evaluations?
What is your access and expertise with analytical software?
When was the last time you created a process map?
How proficient (& recent) are your statistical skills?
Can you teach or coach these skills?

SHARPEN YOUR TECHNICAL TOOLKIT
Personal Assessment

- Why do you practice in healthcare?
- What is your view of clinical, ancillary and support roles within the organization?
- Have you had personality or style assessment training?
- Do you set long term personal development goals? Why or why not?
- Do you prefer to complete a task before moving to next one?
- How do you react to change?

UNDERSTAND YOUR STYLE PREFERENCES
Black Belt Attributes

- **Fire in the belly** - Passion to improve the way the organization does business
- **Soft skills** - Able to work effectively in teams across organization
- **Project management** - Able to get things done well on time
- **Multi-tasking** - Manages multiple tasks at one time and maintains focus
- **Big picture view** - Knows how to weed out insignificant details & maintain view of big picture
- **Analytical skills** - Solid analytical skills

(Breyfogle, 2003)
Lean/Six Sigma Roles for IEs/MEs

- **Change Agent** – Drive quality and performance excellence. Drive culture change. Lead Lean/Six Sigma program or team. Blackbelt.

- **Improvement Expert** – Evaluate layout, analyze and improve processes, manage projects. Greenbelt.

- **Field Observer** – Target opportunities. Provide input. Recommend changes. Lean/Six Sigma team member.
Lean/Six Sigma Roles for IEs/MEs

- **Metrics Analyst** - Track & report benchmarks and balanced score card. Target key opportunities. PI resource.

- **Technical Expert/Educator** – Use software, simulation, and statistical analysis to assist teams. Teaches IE techniques and principles to organization. PI resource.
Summary: Personal Readiness

- A passion for change
- Willing to broker solutions
- Creative, enthusiastic and high tolerance for ambiguity
- Able to facilitate conflict and tension
- Willing to learn new tools and methods
- Respects and values contribution of all participants
- Strong communication and people management skills
- Results-oriented
Suggested Next Steps

- Gain familiarity with methods and application to healthcare
  - Lean/Six Sigma literature & websites
  - Six Sigma training classes (IIE)
  - Networking & conferences (IIE/SHS/others)
- Interview organization decision makers
- Assess organization and self
- Enlist support of executive sponsor
- Find role that suits personality and skills
Thank You!

We’re all a work in progress!!
References & Source Material:


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http://www.healthcare.isixsigma.com