

Strategies in Rapid Implementation of Six Sigma in Healthcare Organizations

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Track 1C Six Sigma as a Healthcare Quality Initiative
5:00pm Monday, August 22, 2005

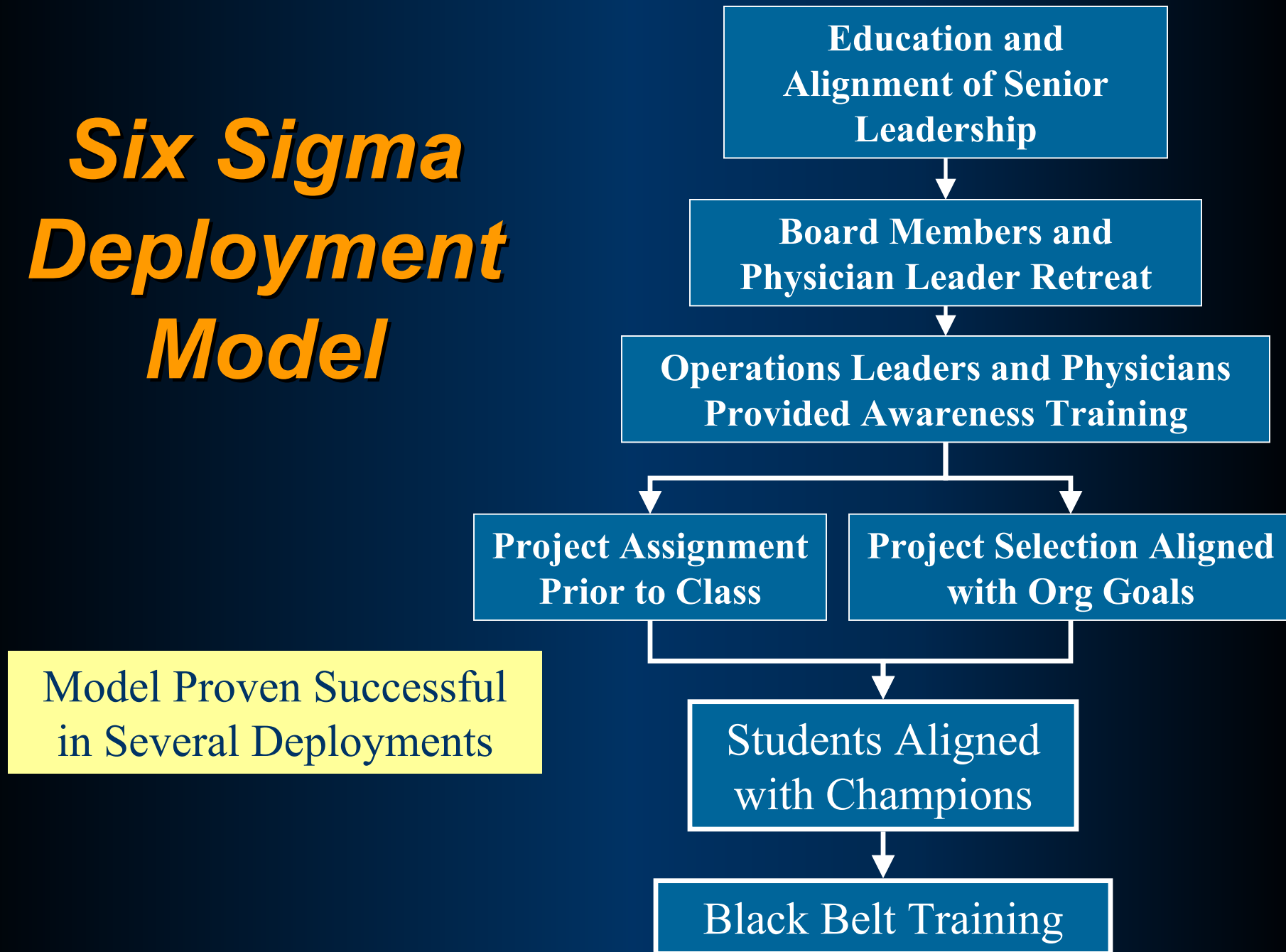
Presentation Objectives

- Key Steps in Rapid Deployment
- Physician Involvement in the Integration Process
- Integration and Profitability

Key Steps in Rapid Integration of Six Sigma

1. Use of a Proven Deployment Model
2. Involvement of Key Stakeholders
3. Effective Project Alignment and Selection Methodology
4. Stage Gate Approach to Project Management

Six Sigma Deployment Model



Education and Alignment of Senior Leadership

Board Members and Physician Leader Retreat

Operations Leaders and Physicians Provided Awareness Training

Project Assignment Prior to Class

Project Selection Aligned with Org Goals

Model Proven Successful in Several Deployments

Students Aligned with Champions

Black Belt Training

Involvement of Key Stakeholders

- Senior Management Team Commitment
 - Guarantee organization success
 - Want Six Sigma to live beyond one person, group or project
- Board Members Understand the Process
 - Address global needs of the organization
 - Unified commitment
 - Common language
- Physician Involvement
 - Natural Key Stakeholders in Efficient Operations
 - Involvement Critical to all Clinical Projects Success



Effective Project Selection and Alignment

- Provides a balanced portfolio (IT, HR, \$, Q, Growth)
- Projects selected tie to annual plans and budgets
- Project leaders connect project work to what they present to their leadership

**We Have Found a Way to Integrate Project
Work Within Operations Plans**

Stage Gate Approach to Project Management

- Project Timeline Established at Start of Project
 - Keeps Project on Course
- Periodic Presentations Scheduled
 - Staff Involvement in Project Updates Adds Additional Project Accountability
- Sharing of Project Closure and Success
 - Keeps Project Leaders Aware of the Importance of Timely Completion
 - Promotes Rapid Cycle Improvement

Six Sigma & Physicians

Attractions

- Disciplined
- Metric based
- Analytical
- Outcome driven
- Project focused

Skepticisms

- Restrictive
- Patients are unique
- Every case is different
- Patients are not processes
- Cookbook medicine



A Challenging New Era for Physicians [post industrial state]

- External public reporting requirements
- Patient access to outcomes
- Patient expectations
- Health Plan demands
- Hospital process improvement initiatives



The New Era for Physicians

- Six Sigma methodology is the natural response and provides a tangible reliable solution to the challenges and requirements of the New Era



A Strategy for Imbedding Six Sigma in a Medical Staff Culture

- Leadership commitment
- Fundamental Education
- Project driven training
- Physicians as project leaders, participants or content experts
- Relevant project selection
- Outcome driven projects
- Continuous communication of outcomes

Clinical Projects with Physician Impact

- Congestive Heart Failure
 - Lowest Quartile to #1 Rank
- Surgical Site Infection
 - 27% Compliance to 100% SSI Protocol
- Community Acquired Pneumonia
 - Lowest Decile to Top Decile Performance
- ICU Ventilator Bundle
 - Rapid Deployment of IHI Protocol
- 7 & 30 day OPT follow-up for psychiatric patients @ 100%
- CABG process flow
 - 95+% Customer Satisfaction
 - Dramatic Reduction in Re-bleed and Mortality Rate

Cataract Surgery

Surgeons Supported Project by:

- Discussing Technique Differences for Eye Anesthesia
- Pre-Scripting Medications
- Eliminated Pre-Admission Testing on Topical Anesthesia Cases
- Common Supplies Accepted

**44% Variation
in Supply Cost
Eliminated**

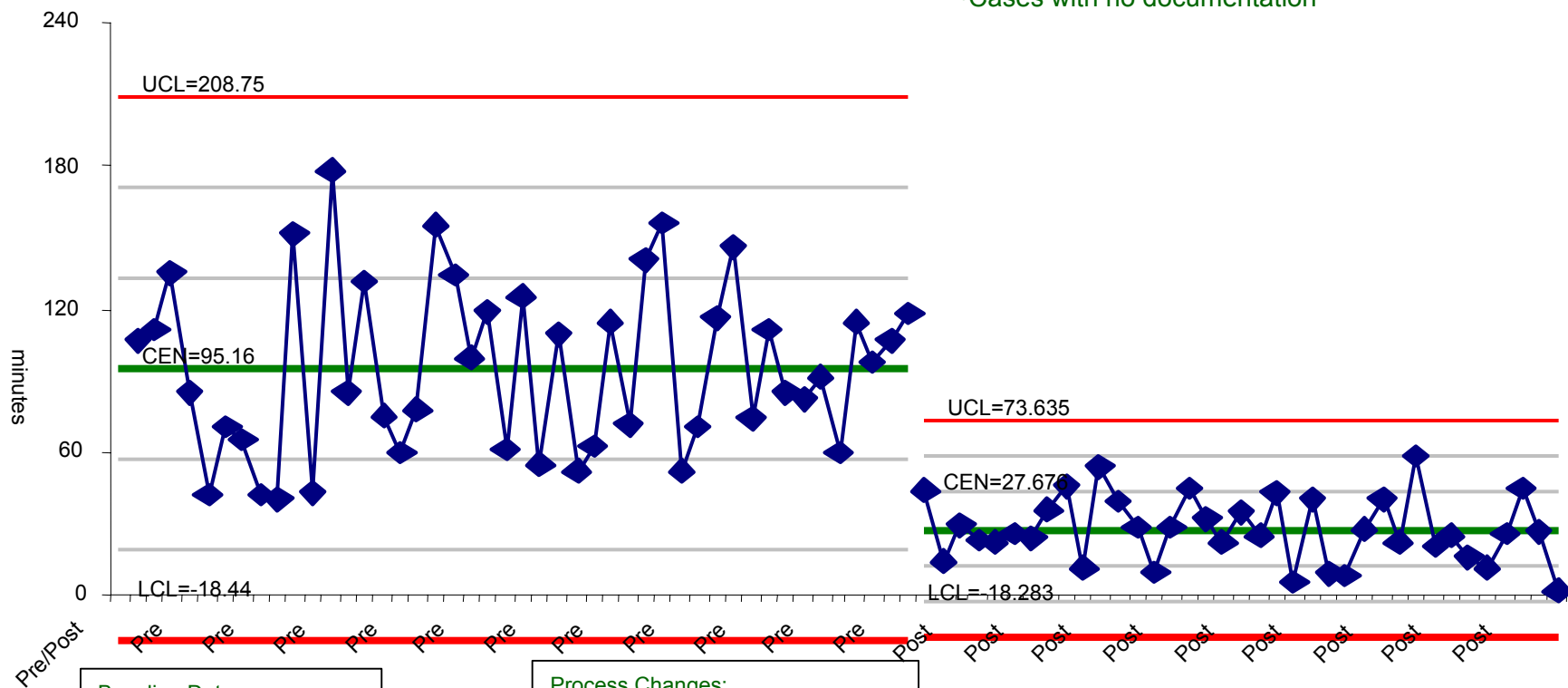
Improved Profit Margin: from -16% to +7%
Improved Customer Satisfaction: to Over 90%

Preventing Surgical Site Infections

Antibiotics within 1 hour of Surgical Incision

Exclusion criteria:

- non-elective cases and revisions.
- Cases with no documentation



Baseline Data:
 Mean = 95 minutes
 Sigma Capability = **0.5**
DPM = 841,072

Process Changes:

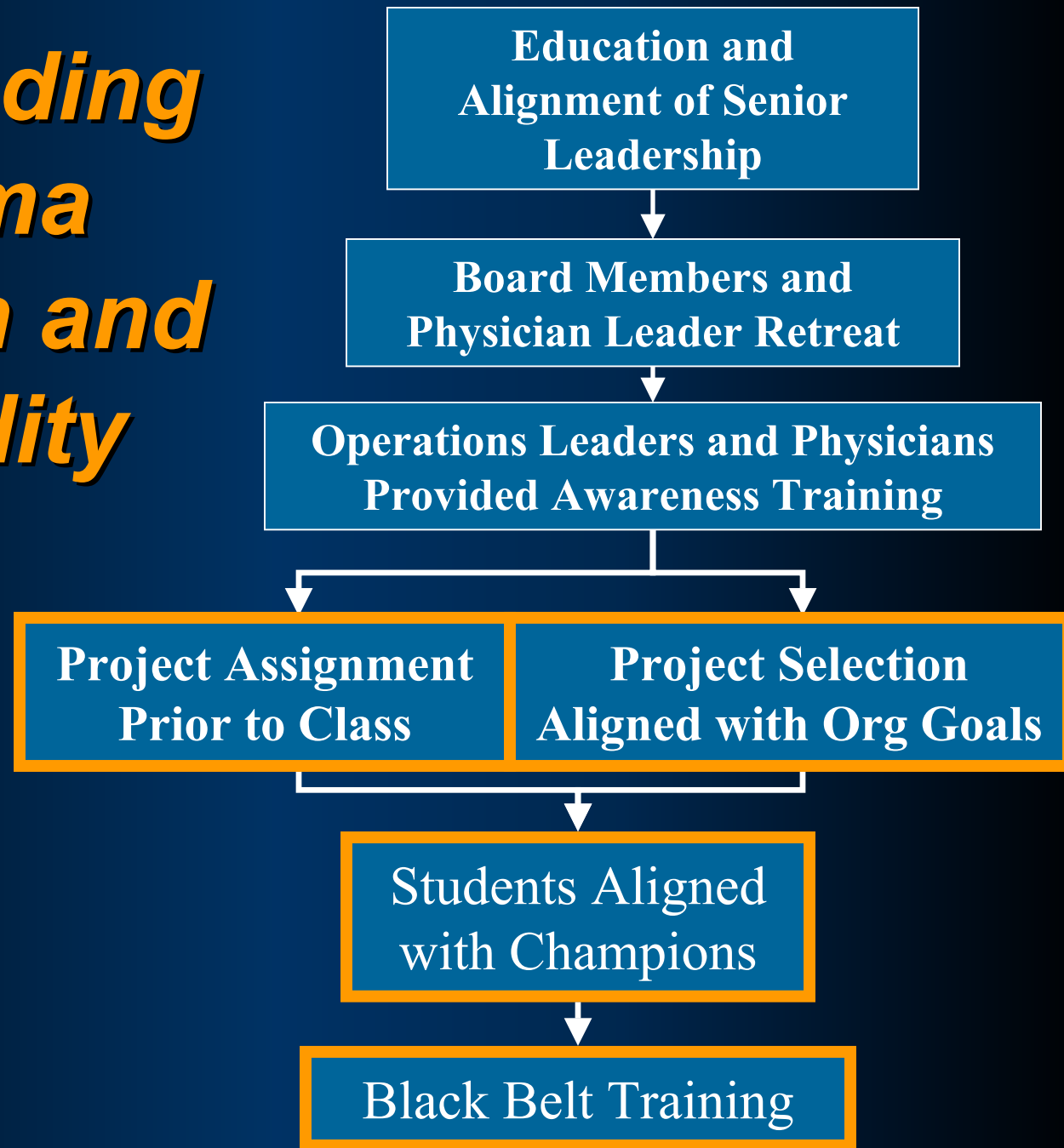
- Session with Surgeons regarding appropriate ATB & timing
- Pre-op Vancomycin eliminated
- Antibiotic from IV hang to IV push
- Anesthesia giving antibiotic
- Education of staff regarding ATB administration

Control Data:
 Mean = 27.6 minutes
 Sigma Capability = **> 6σ**
DPM = 0

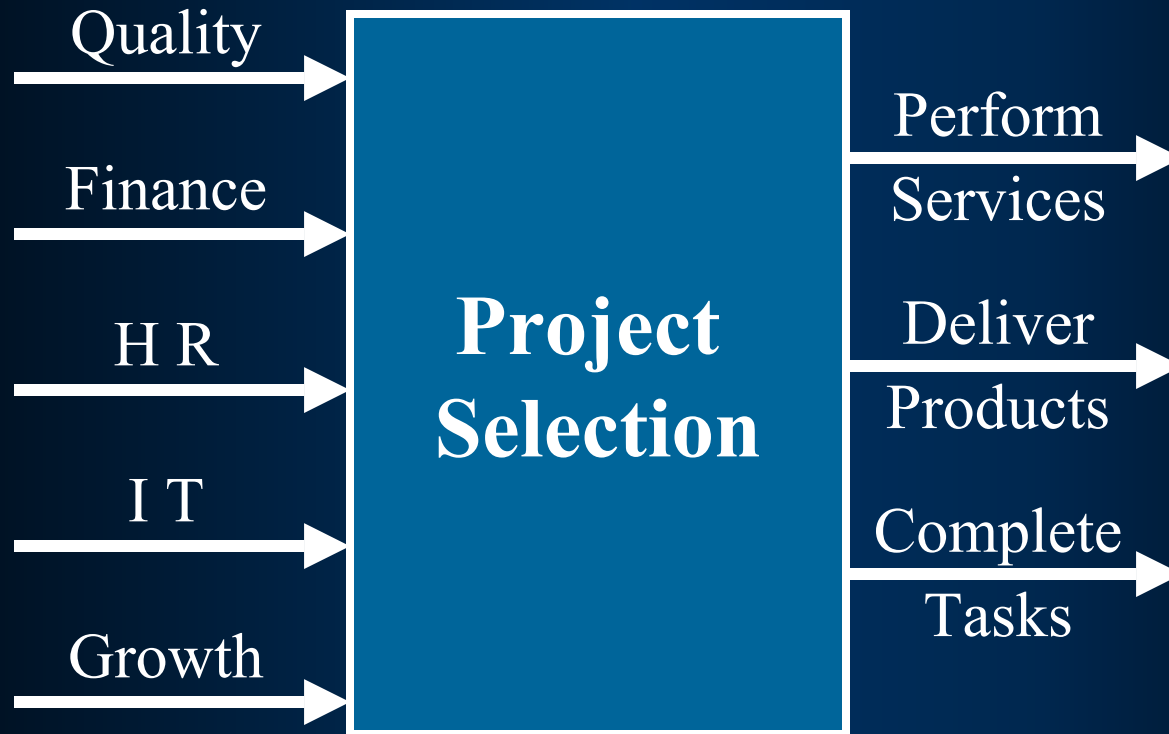
Lessons Learned as a Result of Physician Involvement in Six Sigma

- Six sigma is intuitively attractive to physicians
- Six Sigma's power to improve outcomes overcomes the natural skepticism
- Targeted education is essential
- There are multiple roles for physicians
- Clinical outcome improvements are dramatic & sustainable

Understanding Six Sigma Integration and Profitability



Alignment of Projects to Strategic Imperatives of Organization



“Some feel that project selection is the Achilles Heel of Six Sigma”

Ronald Snee, Quality Progress, March 2001

Project Selection Using KISS-Style House of Quality (QFD)

		Criterion Value Scores					
Impact on Imperative	Finance	Quality	HR	IT	Growth		
Very High Positive Impact	> \$750 = 1.00	1.00	1.00	1.00	1.00		
High Positive Impact	\$500-\$750 = .75	0.75	0.75	0.75	0.75		
Medium Positive Impact	\$250-\$500 = .50	0.50	0.50	0.50	0.50		
Low Positive Impact	\$100-\$250 = .25	0.25	0.25	0.25	0.25		
Very Low Positive Impact	< \$100 = .10	0.10	0.10	0.10	0.10		
Projects							
Cardiology Business Deployment	1.00	1.00	0.75	0.75	1.00		4.5
Phys Office EMR	0.75	1.00	0.75	1.00	1.00		4.5
TMC Registration	1.00	1.00	0.50	1.00	0.75		4.25
E/R Business Deployment	0.50	1.00	0.75	0.75	1.00		4
Regional Cancer Center Evaluation	1.00	1.00	0.50	0.50	1.00		4
CRNA Staffing	1.00	1.00	1.00	0.10	0.50		3.6
Improve Customer Satisfaction	0.10	1.00	1.00	0.50	1.00		3.6
Revenue Capture	1.00	0.50	0.75	0.75	0.10		3.1
Nursing Overtime	1.00	0.75	1.00	0.10	0.25		3.1
Retail Rx at TMC	0.25	1	1	0.1	0.75		3.1
Reduce FMLA/Missed Days Due to Injury	1.00	0.75	1.00	0.10	0.10		2.95

Projects Aligned With
Organization's Imperatives

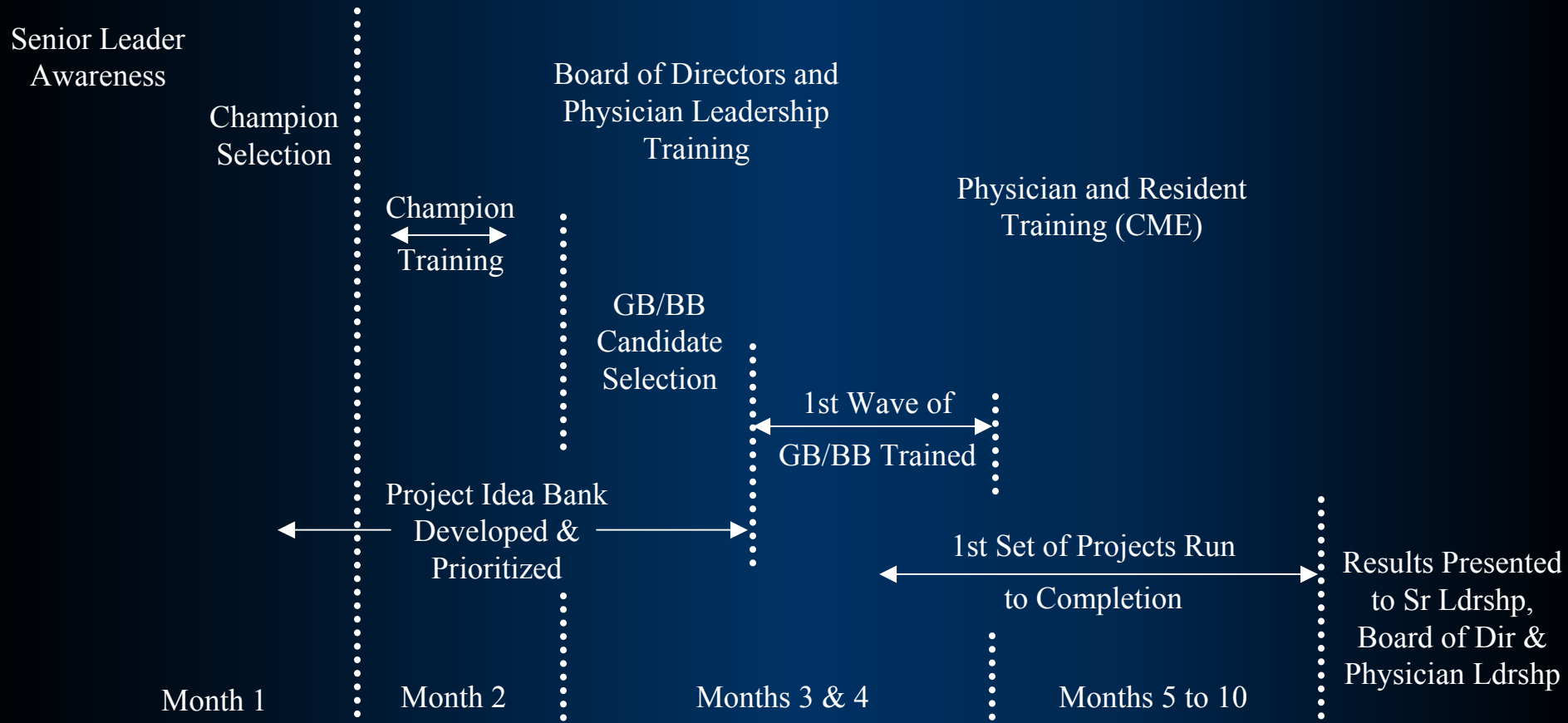
Six Sigma Project Execution

- **Project Assignments Prior to Start of Training**
 - GB/BB Candidates arrive at class day 1 with a specific project and timeline defined
 - Project work starts immediately after 1st workshop
- **Champion / Student Alignment is Critical**
 - Both the student AND champion are responsible for project outcome
 - Champion helps to break through barriers to success
 - Champion participates in every student presentation

Knowledge-Based Feedback Loop

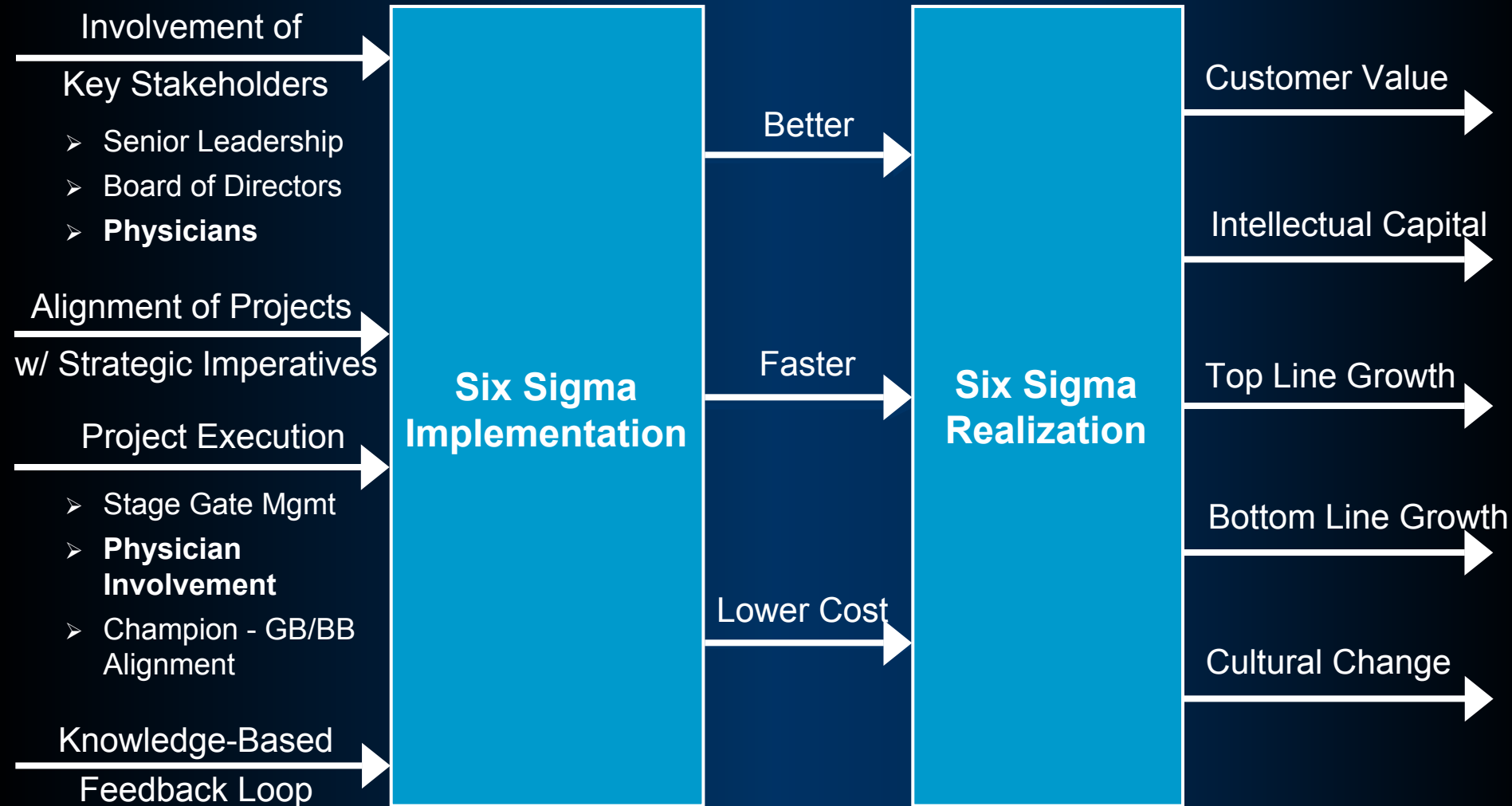


Six Sigma Rapid Implementation Time Line



Alignment with Fiscal Year Fosters Realization and Support

Summary



Six Sigma Connections for Healthcare©:
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