

Lean Six Sigma Black Belt Certification - Healthcare

In this 80-hour course, candidates apply the concepts of performance management and continuous improvement to create and sustain a more productive, cost effective and responsive healthcare delivery organization. Through 15 units & 65, candidates learn the principles which help implement a culture of continuous improvement and apply methods such as lean management, and practices like the Toyota Production System.

Units	Topics	Case Studies	Key Exercises
Unit 1	The Roots of Lean Six Sigma <ul style="list-style-type: none"> The origin of lean Productivity The nature of quality and its effect on productivity The costs of poor healthcare quality Systems thinking The value proposition of lean management 	<ul style="list-style-type: none"> Above and Beyond 	Structured discussion: <ul style="list-style-type: none"> Productivity Cost of poor healthcare quality The role of leadership The value proposition of lean management to healthcare
Unit 2	Lean Management Teams <ul style="list-style-type: none"> Establishing, supporting and facilitating lean management teams Team roles and responsibilities Project team meetings The stages of team evolution 	<ul style="list-style-type: none"> Team Meetings 	<ul style="list-style-type: none"> Strengths profile Team visioning exercise
Unit 3	Process Development <ul style="list-style-type: none"> Properties of a well-designed process management system Process owners vs. process stake holders Traditional flowcharting The SIPOC process map Functionally vs. process focused organizations 	<ul style="list-style-type: none"> Flowcharting 	<ul style="list-style-type: none"> Process flowcharting SIPOC scope charting
Unit 4	Analysis of Performance <ul style="list-style-type: none"> Performance analysis Common cause vs. special cause variation Measures of central tendency Measuring performance 	<ul style="list-style-type: none"> Parable of the Red Beads Analyzing Operational Performance 	<ul style="list-style-type: none"> Analyzing clinical data with run charts Interpreting data with run charts and drawing conclusions

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Unit 5	The Voice of the Patient <ul style="list-style-type: none"> Voice of the patient defined Properties of a well-designed patient loyalty model How to assess the voice of the patient 	<ul style="list-style-type: none"> Focus Group: Stew Leonard's Dairy David Feinberg: UCLA Medical Center & The Patient Experience Assessing the Voice of the Patient - Importance and Satisfaction – An Analysis 	Structured discussion: <ul style="list-style-type: none"> How to engage customers How to engage patients How to engage staff Identifying mechanisms, systems and processes to improve
Unit 6	Part 1: Lean tools for continuous improvement <ul style="list-style-type: none"> Data sheets Histograms Cause and effect analysis Scatter diagrams Correlation and simple linear regression analysis Pareto analysis 	<ul style="list-style-type: none"> Histograms: time of first lightning strikes. Cause and Effect Analysis Scatter Diagrams – saving the manatees 	<ul style="list-style-type: none"> Creating and analyzing histograms Cause and effect analysis Creating and analyzing scatter diagrams Correlation analysis Regression analysis Pareto analysis
Unit 6	Part 2: Statistical Process Control <ul style="list-style-type: none"> The Purpose of Statistical Process Control Rational sub-grouping and sampling Using baseline control charts for performance metrics Measuring performance capability Measurement systems analysis Data collection 	<ul style="list-style-type: none"> Control Charts Data Collection Planning Data Collection Methods 	<ul style="list-style-type: none"> Control chart selection Control chart construction Control chart analysis Performance capability analysis
Unit 7	Management by Fact <ul style="list-style-type: none"> Defining lean & six sigma PDCA – Deming approach to improvement DMAIC – lean six sigma approach to improvement 	<ul style="list-style-type: none"> Prescription medicine buying time 	Structured discussion: <ul style="list-style-type: none"> Root cause analysis

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Unit 8	Team Dynamics: Working with and through others <ul style="list-style-type: none"> • Team dynamics • Brain storming • Group Think • Understanding and Managing Change 	<ul style="list-style-type: none"> • Consensus • Groupthink 	<ul style="list-style-type: none"> • Consensus building: lost at sea • Structured discussion: groupthink
Unit 9	Establishing a Performance Excellence System <ul style="list-style-type: none"> • Attributes of an effective performance excellence system • Value streams • Integrating measurements • Non-value-added tasks • Establishing performance target 	<ul style="list-style-type: none"> • Pyxis: A Culture of Continuous Improvement 	Structured discussion: <ul style="list-style-type: none"> • Involvement of senior leaders in cultural transformation • How to engage employees to adopt a performance excellence system • The role of communication to facilitate transformation
Unit 10	Lean Management in Healthcare <ul style="list-style-type: none"> • Lean thinking • Value defined • Muda (無駄) - waste • Value stream mapping • Theory of constraints, work balancing, takt time, theoretical maximum performance • 5S 	<ul style="list-style-type: none"> • Applying the Toyota Production System to Medicine • Calculating Takt Time – Patient Wait times 	Structured discussion: <ul style="list-style-type: none"> • Takt time analysis – patient wait time.
Unit 11	Quantitative Analysis <ul style="list-style-type: none"> • Basic statistical concepts • Confidence intervals • Hypothesis tests – tests of significance • Analysis of variance • Chi – square – goodness of fit test • Multiple regression analysis 	<ul style="list-style-type: none"> • Confidence Intervals – Will Shaw’s Blood Pressure • Test of Significance – NutraSweet • Paired T-Test: NutraSweet Extension 	<ul style="list-style-type: none"> • One-Sample T-Test – Leaving without treatment • Two-Sample T-Test – Patient Complaints • Paired T-Test – Rehabilitation before and after • Test of Proportion – Imaging equipment quality • One Way Anova – Inbound call center • Two Way Anova – Door to Doc Time • Chi-Square Test of Independence: Payor type vs readmissions. • Multiple Regression – drivers of willingness to recommend

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Unit 12	Managing Strategy – The Balanced Scorecard <ul style="list-style-type: none"> The strategic planning process Situational (SWOT) analysis Strategic analysis and conclusions Managing strategy Principles of a strategy focused organization The balanced scorecard Creating a balanced scorecard 	<ul style="list-style-type: none"> The Balanced Scorecard – Corporate Strategy and Business Planning Robert Kaplan – A Strategy Focused Organization Industry and Market Analysis – US Healthcare Providers 2011 The Balanced Scorecard - Poudre Valley Healthcare 	<ul style="list-style-type: none"> Case Study Analysis – Strategic Planning: Vanguard Health Systems 2011 Case Study Analysis – Managing Strategy – Poudre Valley Health Systems
Unit 13	Lean Six Sigma: Financial Impact Analysis <ul style="list-style-type: none"> The cost of poor quality Activity based cost management Cost benefit analysis 	<ul style="list-style-type: none"> Activity Based Costing; Taylor’s Outpatient Clinic Financial Model: Net Present Value – Billing Exceptions 	Financial Modeling: IT integration solution <ul style="list-style-type: none"> Net Present Value Return on Investment Payback Period
Unit 14	Benchmarking for Continuous Improvement <ul style="list-style-type: none"> Benchmarking defined The generally accepted benchmarking best practices Critical evaluation of core processes Discovery Implementation Monitoring and evaluation 	<ul style="list-style-type: none"> Benchmarking for Continuous Improvement - GTE 	<ul style="list-style-type: none"> Case Study Analysis – Scoping, Analysis, Implementation
Unit 15	Baldrige Healthcare Criteria for Performance Excellence <ul style="list-style-type: none"> Leadership Strategic Planning Customer Focus Measurement, Analysis, and Knowledge Management Workforce Focus Operations Focus Results 	<ul style="list-style-type: none"> The Nightingale College of Nursing Case Study 	Case Study Analysis <ul style="list-style-type: none"> Approach Deployment Learning Integration