

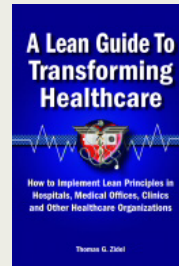
For additional information on Lean Hospitals visit our website at www.leanhospitals.org

Lean Six Sigma is the combination of two proven improvement methodologies designed to create effective change rapidly. Derived from the Toyota Production System, lean provides proven concepts which enable organizations to focus on the elimination of waste and improve flow in the value stream. Lean incorporates both kaizen and kaikaku, continuous incremental improvement and radical improvement. Both kaizen and kaikaku are implemented with a bias for action, providing rapid results. Six Sigma incorporates the DMAIC (Define, Measure, Analyze, Improve and Control) methodology which utilizes rigorous statistical analysis to expose root causes to understand and reduce process variation. An effective combination of lean and six sigma focuses on value adding process steps provided by lean, which is, in turn, reinforced by the data-driven methods incorporated by six sigma. Together these methodologies provide the most value to the customer and the organization.



TOM ZIDEL
PRESIDENT, LEAN HOSPITALS, LLC

Tom Zidel is a consultant, speaker, author, and facilitator. He specializes in the implementation of Lean and Six Sigma in the healthcare environment. Tom's successful 20 year career in the manufacturing and aerospace industries includes experience implementing cost reduction, productivity, operational and quality improvement, and strategic deployment. Tom has devoted the last 6 years to successfully implementing Lean and Six Sigma principles in healthcare. He is the author of the book "A Lean Guide to Transforming Healthcare: How to Implement Lean Principles in Hospitals, Medical Offices, Clinics, and Other Healthcare Organizations"



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Lean Six Sigma Black Belt Training & Certification

Providing the essential drive necessary to direct the organization toward breakthrough improvements





D
What is the problem?

M
How bad is the problem?

A
Under what circumstances does the problem exist?

I
How can the problem be fixed?

C
How does it stay fixed?



The certified Six Sigma Black Belt training and certification requires

All participants are required to have completed Lean Hospitals' Lean Healthcare series training and Lean Hospitals' Six Sigma Green Belt certification or equivalent, as a prerequisite.

Participants will need to have a laptop computer with Minitab15®, available from the Minitab website.

Certification requires a passing grade (80%) on the two part Black Belt exam.

Each participant is required to Lead and complete a Lean Six Sigma Project. Upon completion of the training program participants must complete the Improve and Control phases of their projects, obtain written senior management approval of successful completion, and provide a PowerPoint presentation with narrative of the completed project.

For additional information: Email us at info@leanhospitals.org or call toll free at 866-831-5165

Training and Certification for Healthcare Professionals

DEFINE STAGE

Six Sigma Deployment
Change management
Roles & responsibilities
Team formation

Team dynamics
Team management & facilitation
Decision making
Conflict Resolution
Directional thinking

How to think about quality

Integration of Lean & Six Sigma

Overcoming cultural resistance

Define phase (Review from Green Belt Training)
Project charter
SIPOC, VOC, CTQ Tree
Project tracking
Stakeholder analysis

MEASURE PHASE

Input & output variables
Data collection plan
Measurement scales

Sampling methods
Measurement methods
MSA (Measurement System Analysis)
Review of graphical analysis

Probability concepts

- Classic Theory
- Independent / Dependent
- Mutually / Non-Mutually exclusive
- Joint occurrence
- Conditional probability
- Multistage probability
- Bayes Theorem
- Permutations & Combinations

Relative Frequency
Binomial Probability Distribution
Central Limit Theorem
Gaussian Distribution
Z-score
Standard error
Confidence interval
Student's t Distribution
Degrees of freedom
Poisson Distribution

ANALYZE PHASE

Hypothesis testing
One-tailed / two-tailed

Two sample hypothesis testing
Chi-square test
Goodness of Fit
Goodness of Fit Binomial Distribution
Contingency tables

ANOVA
F-Distribution
One way ANOVA
Two way ANOVA
Main Effect
Interactions

Regression, correlation coefficients
Correlation Coefficient
Linear Regression
Regression equation

IMPROVE PHASE

Mind Mapping
Two Factor Design
Randomized Basic Design
Primary factors & Nuisance factors
Randomized Block Design
Holding nuisance factors constant
Full Factorial Design (2k)

Orthogonal Arrays
Fractional Factorial Design
Screening
Confounding & Aliasing
Response Surface Methods
Central Composite Design (CCD)
Planning and Conducting Experiments

CONTROL PHASE

Statistical Process Control (SPC)
Long and Short Term Process Capability
Cp, Cpk Review
Pp, Ppk
Control charts
Xbar and R Chart
p Chart
np Chart
c Chart
u Chart
EWMA Chart
Exponentially Weighted Moving Average



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