

Table of Contents

Introduction	1
Case Study: Reducing Length of Stay in a Hospital Emergency Department Through Performance Improvement	7
Chapter 1. Getting Started	9
Teamwork	9
Select the Team	9
ARMI Analysis	9
Conduct Team Meetings	10
PAGER	10
Ground Rules	12
Brainstorming	14
The Gallery Walk	14
Consensus and Decision Making	15
Multivoting	15
Fist to Five	15
Action Planning	16
WWW Action Plan	16
Change Management	16
Conclusions	18
Chapter 2. Define Phase: Identify the Problem	19
Define the Problem	19
Prioritization Matrix	20
Voice of the Customer (VOC)	20
Critical-to-Quality (CTQ) Tree	22
Process Map	22
SIPOC	24

Manage the Project	25
Project Charter.....	25
Set the Vision	27
15 Words	27
More of/Less of.....	27
Threats vs. Opportunities Matrix.....	30
Cultural Landscape Map	31
Conclusions.....	33
Chapter 3. Measure Phase: Collect the Baseline Data	35
Define and Collect Baseline Data	36
Operational Definition	36
Data Collection Plan	37
Sampling.....	39
Measurement System Analysis.....	40
Describe the Current State	41
Descriptive Statistics and Measures of Central Tendency and Variation	41
Visually Display the Current State.....	41
Bar Graph	42
Histogram.....	42
Pie Chart	43
Box Plot.....	44
Scatterplot.....	45
Change Management: Inspire Phase.....	46
Stakeholder Analysis	46
Elevator Speech	48
Conclusions.....	50
Chapter 4. Analyze Phase: Assess the Current Process.....	51
Analyze the Current Process.....	51
Value Stream Map.....	52
Cause-and-Effect Diagram	53
5 Whys	54
Process FMEA.....	55
Pareto Chart	57
Change Management: Inspire Phase.....	58
Resistance Analysis	58
Conclusions.....	60

Chapter 5. Improve Phase: Select the Best Solution	61
Build on Lean Strategies	62
Modifying the Workflow	62
5S	63
Mistake Proofing	64
Select the Best Solution	65
Design FMEA	65
Priority/Payoff Matrix	65
Test the Solution	67
PDSA	68
Chart the Results	68
Run Chart	68
Additional Analyses	69
Change Management: Launch Phase	70
Communication Plan	70
Operational Assessment	71
Conclusions	74
Chapter 6. Control Phase: Sustain the Gains	75
Spread the Solution	76
Standard Work	76
Monitor Results	76
Control Chart	76
Control Plan	78
Dashboards and Scorecards	79
Change Management: Support Phase	82
Helping/Hindering	82
Conclusions	83
Appendix: Reducing Length of Stay in a Hospital Emergency Department Through Performance Improvement	85
Glossary	95