

# BASICS OF HEALTH CARE PERFORMANCE IMPROVEMENT

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*A Lean Six Sigma Approach*

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# Dedication

As with all my work, I dedicate this book to my faithful wife and life companion, Sally, and the wonderful family that she has helped create over the years.



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# Preface

Lean Six Sigma has become a rallying cry in the healthcare industry around the world as a way of achieving the value proposition of high quality at low cost. However, as discussed in Chapter 1, we in the industry have a long way to go. We're still allowing errors to creep into our work, even as society is becoming more demanding and less tolerant of those errors. The United States has lost the claim of being "the best healthcare system in the world," as statistics on mortality rates and other key health metrics have shown, but many practitioners like to claim that we're still number one in access to expensive technology. If that were a valid criterion for quality care, then our healthcare quality statistics should far exceed those of other nations. We do, however, exceed the performance of nations similar to ours in one measure: cost per capita. As shown in Chapter 1, the cost per person for health care in the United States far surpasses that of every other country in the world. Clearly, the situation must change.

The Six Sigma and lean production systems were created by engineers at Motorola nearly four decades ago and engineers at Toyota over five decades ago, respectively. Each had merit in its niche, and each paradigm was responsible for lifting entire segments of the United States' and Japanese economies out of stagnation and declining performance. Now the healthcare industry around the world has begun to increasingly adopt these approaches to revitalize healthcare performance as well. Healthcare reform passed in 2010 in the United States (the Patient Protection and Affordable Care Act), and that act has placed even more emphasis on the need for the industry to change. Incentives are aligning with performance (i.e., quality metrics) rather than just volume, while at the same time payments for services will soon be capped or begin to decline. The Center for Medicare and Medicaid Services (CMS) has instituted policies that eliminate payments for complications caused by "never events," (e.g., retained foreign bodies after surgery and pressure ulcers sustained during medical care)

which places increased pressure on hospitals in particular to eliminate errors. Additionally, new payment approaches like bundled payments for specific medical procedures will begin to pressure providers to reduce costs and improve efficiency. Thus, Lean Six Sigma (LSS), a combination approach that has worked well in other sectors of the economy, appears to be a natural solution for these new market contingencies.

As I set out to write a basic quality improvement (QI) text, it occurred to me that the basics of QI had changed. Most high performing organizations had already adopted LSS, and those that are aspiring to higher performance are in the process of implementing this more advanced framework. So, rather than a traditional textbook on quality improvement, I determined that this iteration of the “basics” would involve an approach that would lead to even higher performance. This book is flexible in its usage and application. Students in health administration programs will find this book provides an excellent foundation in the fundamentals of QI. At the same time, the book is designed as a practical reference to help senior executives understand the basics of the LSS approach, as well as to support teams as they begin to implement LSS in their organizations. DMAIC (Define-Measure-Analyze-Improve-Control) is the acronym that LSS practitioners use to summarize the approach, and the book is organized to explain each of these steps in great depth for LSS teams and leaders to use for training and for support during a DMAIC initiative. The prior book in this series, *Advanced Principles and Methods of Performance Improvement in Health Care*, can serve as a companion to this text, as it puts LSS into context with other performance improvement models and takes a deep dive into some of the concepts. The goal of this book is to provide the depth in LSS that can take organizations to higher operational levels that will ensure sustainability as health consumers change the marketplace to value-based purchasing.

Any book of this type requires effort and advice from many people and sources to ensure precision and accuracy (see Chapter 3), and I would like to thank a number of people, including my family for their support during the writing of the text and Dr. Adam Campbell who helped review the statistics discussions. I also have the privilege of teaching these topics in the Physicians’ Executive MBA program at the University of Tennessee in Knoxville, and discussion with students and other professors in the program have been particularly valuable for making this text a reality. Finally, my coworkers in Lean Six Sigma, Roger Noble and Diane Jenkins, have helped shape important parts of the book as well.

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