PREFACE

This book is intended to help healthcare professionals meet the challenges and take advantage of the opportunities found in healthcare today. We believe that the answers to many of the dilemmas faced by the US healthcare system, such as increasing costs, uneven quality, and the opportunity of emerging technologies, lie in organizational operations—the nuts and bolts of healthcare delivery. The healthcare arena is filled with opportunities for significant operational improvements. We hope that this book encourages healthcare management students and working professionals to find ways to improve the management and delivery of healthcare, thereby increasing the effectiveness and efficiency of tomorrow's healthcare system.

Many industries outside healthcare have successfully used the programs, techniques, and tools of operations improvement for decades. Leading healthcare organizations have now begun to effectively employ the same tools. Although numerous other operations management texts are available, few focus on *healthcare* operations, and none takes an *integrated* approach. Students interested in healthcare process improvement have difficulty seeing the applicability of the science of operations management when many texts focus on industrial applications rather than on patients, providers, and payers.

This book covers the basics of operations improvement and provides an overview of significant trends in healthcare. We focus on the strategic implementation of process improvement programs, techniques, and tools in the healthcare environment, with its complex web of reimbursement systems, physician relations, workforce challenges, and governmental regulations. This integrated approach helps healthcare professionals gain an understanding of strategic operations management and, more important, its applicability to the healthcare field.

How This Book Is Organized

We have organized this book into five parts:

1. Introduction to Healthcare Operations
2. Setting Goals and Executing Strategy

3. Performance Improvement Tools, Techniques, and Programs
4. Applications to Contemporary Healthcare Operations Issues
5. Putting It All Together for Operational Excellence

Although this structure is helpful for most readers, each chapter also stands alone, and the chapters can be covered or read in any order that makes sense for a particular course or student.

The first part of the book, Introduction to Healthcare Operations, begins with an overview of the challenges and opportunities found in today's healthcare environment (chapter 1). We follow with a history of the field of management science and operations improvement (chapter 2). Next, we discuss two of the most influential environmental changes facing healthcare today: evidence-based medicine and value-based purchasing, or simply value purchasing (chapter 3). We conclude this part with an overview of technology in healthcare with an emphasis on the electronic health record (chapter 4).

In part II, Setting Goals and Executing Strategy, chapter 5 highlights the importance of tying the strategic direction of the organization to operational initiatives. This chapter outlines the use of the balanced scorecard technique to execute and monitor these initiatives toward achieving organizational objectives. Typically, strategic initiatives are large in scope, and the tools of project management (chapter 6) are needed to successfully manage them. Indeed, the use of project management tools can help to ensure the success of any size project. Strategic focus and project management provide the organizational foundation for the remainder of this book.

The next part of the book, Performance Improvement Tools, Techniques, and Programs, provides an introduction to basic decision-making and problem-solving processes and describes some of the associated tools (chapter 7). Most performance improvement initiatives (e.g., Six Sigma, Lean) follow these same processes and make use of some or all of the tools discussed in chapter 7.

Good decisions and effective solutions are based on facts, not intuition. Chapter 8 provides an overview of data analysis techniques to enable fact-based decision making. This includes a discussion of the newer tools of big data: advanced analytics and operational dashboards.

Quality tools such as Six Sigma and Lean are specific philosophies or techniques that can be used to improve processes and systems. Quality improvement using Six Sigma methodology (chapter 9) is the latest manifestation of the use of quality improvement tools to reduce variation and errors in a process. The Lean methodology (chapter 10) focuses on eliminating waste in a system or process.

The fourth section of the book, Applications to Contemporary Healthcare Operations Issues, begins with an integrated approach to applying the

various tools and techniques for process improvement in the healthcare environment (chapter 11). We then focus on a special and important case of process improvement: patient scheduling in the ambulatory setting (chapter 12).

Supply chain management extends the boundaries of the hospital or healthcare system to include both upstream suppliers and downstream customers, and this is the focus of chapter 13. The need to "bend" the healthcare cost inflation curve downward is one of the most pressing issues in healthcare today, and the use of operations management tools to achieve this goal is addressed in chapter 14.

Part V, Putting It All Together for Operational Excellence, concludes the book with a discussion of both emerging trends in healthcare delivery (chapter 15) and strategies for implementing and maintaining the focus on continuous improvement in healthcare organizations (chapter 16).

Many features in this book should enhance reader understanding and learning. Most chapters begin with a vignette, called Operations Management in Action, that offers a real-world example related to the content of that chapter. Throughout the book, we use a fictitious but realistic organization, Vincent Valley Hospital and Health System, to illustrate the tools, techniques, and programs discussed. Each chapter concludes with questions for discussion, and parts II through IV include exercises to be solved.

We include abundant examples throughout the text of the use of various contemporary software tools essential for effective operations management. Readers will see notes appended to some of the exhibits, for example, that indicate what software was used to create charts and graphs from the data provided. Healthcare leaders and managers must be experts in the application of these tools and stay current with the latest versions. Just as we ask healthcare providers to stay up to date with the latest clinical advances, so too must healthcare managers stay current with both basic and emerging software tools.

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Instructor Resources

This book's instructor resources include PowerPoint slides; an updated test bank; teaching notes for the chapter content and the end-of-chapter exercises; and Excel files and cases for selected chapters with accompanying teaching notes. Each of the case studies is one to three pages long and is suitable for one class session or an online learning module.

For the most up-to-date information about this book and its instructor resources, visit ache.org/HAP and for the book's order code (2448I).

This book's instructor resources are available to instructors who adopt this book for use in their course. For access information, please email hapbooks@ache.org.

Student Resources

Case studies, exercises, tools, and web links to resources are available at ache.org/books/OpsManagement4.