



Healthcare Analytics: From Data to Knowledge to Healthcare Improvement (Wiley Series in Operations Research and Management Science)

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Features of statistical and operational research methods and tools being used to improve the healthcare industry

With a focus on cutting-edge approaches to the quickly growing field of healthcare, *Healthcare Analytics: From Data to Knowledge to Healthcare Improvement* provides an integrated and comprehensive treatment on recent research advancements in data-driven healthcare analytics in an effort to provide more personalized and smarter healthcare services. Emphasizing data and healthcare analytics from an operational management and statistical perspective, the book details how analytical methods and tools can be utilized to enhance healthcare quality and operational efficiency.

Organized into two main sections, *Part I* features biomedical and health informatics and specifically addresses the analytics of genomic and proteomic data; physiological signals from patient-monitoring systems; data uncertainty in clinical laboratory tests; predictive modeling; disease modeling for sepsis; and the design of cyber infrastructures for early prediction of epidemic events. *Part II* focuses on healthcare delivery systems, including system advances for transforming clinic workflow and patient care; macro analysis of patient flow distribution; intensive care units; primary care; demand and resource allocation; mathematical models for predicting patient readmission and postoperative outcome; physician–patient interactions; insurance claims; and the role of social media in healthcare. *Healthcare Analytics: From Data to Knowledge to Healthcare Improvement* also features:

- Contributions from well-known international experts who shed light on new approaches in this growing area
- Discussions on contemporary methods and techniques to address the handling of rich and large-scale healthcare data as well as the overall optimization of

healthcare system operations

- Numerous real-world examples and case studies that emphasize the vast potential of statistical and operational research tools and techniques to address the big data environment within the healthcare industry
- Plentiful applications that showcase analytical methods and tools tailored for successful healthcare systems modeling and improvement

The book is an ideal reference for academics and practitioners in operations research, management science, applied mathematics, statistics, business, industrial and systems engineering, healthcare systems, and economics.

Healthcare Analytics: From Data to Knowledge to Healthcare Improvement is also appropriate for graduate-level courses typically offered within operations research, industrial engineering, business, and public health departments.

HUI YANG, PhD, is Associate Professor in the Harold and Inge Marcus Department of Industrial and Manufacturing Engineering at The Pennsylvania State University. His research interests include sensor-based modeling and analysis of complex systems for process monitoring/control; system diagnostics/prognostics; quality improvement; and performance optimization with special focus on nonlinear stochastic dynamics and the resulting chaotic, recurrence, self-organizing behaviors.

EVA K. LEE, PhD, is Professor in the H. Milton Stewart School of Industrial and Systems Engineering at the Georgia Institute of Technology, Director of the Center for Operations Research in Medicine and HealthCare, and Distinguished Scholar in Health System, Health Systems Institute at both Emory University School of Medicine and Georgia Institute of Technology. Her research interests include health-risk prediction; early disease prediction and diagnosis; optimal treatment strategies and drug delivery; healthcare outcome analysis and treatment prediction; public health and medical preparedness; large-scale healthcare/medical decision analysis and quality improvement; clinical translational science; and business intelligence and organization transformation.

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Editorial Review

From the Back Cover

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Users Review

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Jose Anderson:

The reason why? Because this Healthcare Analytics: From Data to Knowledge to Healthcare Improvement (Wiley Series in Operations Research and Management Science) is an unordinary book that the inside of the publication waiting for you to snap that but latter it will zap you with the secret it inside. Reading this book adjacent to it was fantastic author who write the book in such awesome way makes the content inside of easier to understand, entertaining means but still convey the meaning completely. So , it is good for you because of not hesitating having this anymore or you going to regret it. This phenomenal book will give you a lot of advantages than the other book have such as help improving your talent and your critical thinking approach. So , still want to postpone having that book? If I were you I will go to the publication store hurriedly.

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