How to sift through healthcare data

IE professors edit research on using analytics, informatics to improve results for patients

Rapid technological advances have put a wealth of data at the hands of analysts, and the healthcare sector is no different.

But how do you sift all that information to discover ways to truly improve patient outcomes? That's what industrial engineering professors Hui Yang of The Pennsylvania State University and Eva K. Lee of Georgia Tech try to sort out in *Healthcare Analytics: From Data to Knowledge to Healthcare Improvement.*

The editors focus on statistical and operational research methods and tools that can improve the healthcare industry, comprehensively covering recent research in data-driven healthcare analytics that aims to provide more personalized and smarter healthcare services. They emphasize data and healthcare analytics from an operational management and statistical perspective, detailing ways the new methods and tools can enhance healthcare quality and operational efficiency.

The first part features biomedical and health informatics, tackling 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. The second part examines 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 is published by Wiley ($125, 100.99 as an e-book).

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HEALTHCARE ANALYTICS
FROM DATA TO KNOWLEDGE TO HEALTHCARE IMPROVEMENT

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Book of the Month