Book Review

Handbook of Health Delivery Systems, Yih, Y. (Ed.), Boca Raton, FL: CRC Press, 2011

Part I provides a 94-page overview of healthcare delivery systems. The eight chapters describe the current system and important trends, the role of engineering in system design and operations, outpatient clinics, the role of nursing, long-term care, healthcare insurance, an integrated model of healthcare delivery, and a case study of transformation of the U.S. Veterans Administration.

Part II provides a 66-page treatment of performance assessment and process improvement management. The five chapters in this section address performance assessment, managing physician panels, application of lean production principles, and patient safety and risk assessment. Evidence-based medical practice is discussed in terms of relational and contextual considerations.

Part III includes 13 chapters on systems engineering technologies and methodologies. This 192-page section provides very broad treatments of various aspects of systems engineering, typically at a level of undergraduate engineering. Topics include computer simulation, optimization, queueing theory, Markov processes, statistical analysis, multi-attribute data analysis, inventory systems, facility planning and design, work analysis and design, scheduling and sequencing, data mining, causal risk analysis, and a case study of HIV prevention.

Part IV includes 24 chapters (365 pages) on design, planning, control and management of healthcare systems. The wide range of topics covered include vaccine production, economics of prevention, telemedicine, the organ transplant network, drug development, emergency rooms, operating rooms, surgery scheduling, anesthesia, decontamination, clinical laboratories, emergency planning, public health preparedness, mental health, relationships between social and medical factors, food services, supply chains, wireless sensor networks, bar coding, clinical decision support, health informatics, privacy and security, and turnarounds of healthcare providers.

This ambitious handbook is very broad, as summarized above. With a few exceptions, most of the chapters are short, averaging 14 pages in length, usually including two pages of references. There are also quite a few case studies in many chapters. This does not allow for much depth, but most chapters include an impressive number of references. Thus, while the handbook does not provide enough depth to enable one to do the kind of work reported, it does provide very rich bridges to the literature one would need to consult to do this work. The overview of the book, presented in the Preface, is quite terse – a bit over one page. The Index of 16 pages is quite slim for this 700+ page book. The lack of continuous page numbers is a bit inconvenient.

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