

An Introduction To Healthcare Project Management

This book deals with various facets of the human right to health: its normative profile as a universal right, current political and legal conflicts and contextualized implementation in different healthcare systems. The authors come from different countries and disciplines - law, political science, ethics, medicine etc. - and bring together a broad variety of academic and practical perspectives. The volume contains selected contributions of the international conference "The Right to Health - an Empty Promise?" held in September 2015 in Berlin and organized by the Emerging Field Initiative Project "Human Rights in Healthcare" (University of Erlangen-Nürnberg).

Professor Kathy Schwalbe, author of Information Technology Project Management, Seventh Edition and An Introduction to Project Management, Fifth Edition, has teamed up with Dan Furlong to provide this much-needed text for healthcare students and professionals. Dan manages the Project Management Office for the Medical University of South Carolina and also teaches project management in their Master in Health Administration program. Unique Features: Uses the Project Management Institute's PMBOK(r) Guide, Fifth Edition (2013) Provides in-depth examples for initiating, planning, executing, monitoring and controlling, and closing healthcare projects Includes over 60 template files and samples of important project documents (a business case, project charter, scope statement, project schedule, change request, quality control charts, etc.) Features in each chapter provide real-world examples and references, including Opening Cases and Case Wrap-Ups, examples of What Went Right, What Went Wrong, Media Snapshots, Best Practices, Video Highlights, and Healthcare Perspectives related to project management Includes a Brief Guide to Microsoft Project 2013, the most popular project management software today, with a free 60-day trial available from Microsoft Provides healthcare industry case studies and other teaching resources Includes a companion Web site with interactive quizzes, template files, links to sites mentioned in the text, and much more Instructors can access a secure site with lecture slides, test banks, etc. Visit www.healthcarepm.com for more information"

Individual Participant Data Meta-Analysis: A Handbook for Healthcare Research provides a comprehensive introduction to the fundamental principles and methods that healthcare researchers need when considering, conducting or using individual participant data (IPD) meta-analysis projects. Written and edited by researchers with substantial experience in the field, the book details key concepts and practical guidance for each stage of an IPD meta-analysis project, alongside illustrated examples and summary learning points. Split into five parts, the book chapters take the reader through the journey from initiating and planning IPD projects to obtaining, checking, and meta-analysing IPD, and appraising and reporting findings. The book initially focuses on the synthesis of IPD from randomised trials to evaluate treatment effects, including the evaluation of participant-level effect modifiers (treatment-covariate interactions). Detailed extension is then made to specialist topics such as diagnostic test accuracy, prognostic factors, risk prediction models, and advanced statistical topics such as multivariate and network meta-analysis, power calculations, and missing data. Intended for a broad audience, the book will enable the reader to: Understand the advantages of the IPD approach and decide when it is needed over a conventional systematic review Recognise the scope, resources and challenges of IPD meta-analysis projects Appreciate the importance of a multi-disciplinary project team and close collaboration with the original study investigators Understand how to obtain, check, manage and harmonise IPD from multiple studies Examine risk of bias (quality) of IPD and minimise potential biases throughout the project Understand fundamental statistical methods for IPD meta-analysis, including two-stage and one-stage approaches (and their differences), and statistical software to implement them Clearly report and disseminate IPD meta-analyses to inform policy, practice and future research Critically

appraise existing IPD meta-analysis projects Address specialist topics such as effect modification, multiple correlated outcomes, multiple treatment comparisons, non-linear relationships, test accuracy at multiple thresholds, multiple imputation, and developing and validating clinical prediction models Detailed examples and case studies are provided throughout.

It has been almost 20 years since the Institute of Medicine released the seminal report titled, *Crossing the Quality Chasm*. In it, the IoM identified six domains of care quality (safe, timely, effective, efficient, equitable, and patient-centric) and noted a huge gap between the current state and the desired state. Although this report received a great deal of attention, sadly there has been little progress in these areas. In the U.S., healthcare still has huge disparities, is inefficient, and is fragmented with delays in care that are often unsafe. Most U.S. citizens are expected to suffer from a diagnostic error sometime during their lifetime, not receive a large fraction of recommended care, and pay for one of the most expensive systems in the world. Much has been written about quality improvement over the years but many prominent quality and safety experts. Yet progress has been slow. Some have called on the healthcare professions to look outside of healthcare to other industries using examples in nuclear power and airlines for safety, the hotel and entertainment industry for a 'customer' focus, and the automotive industry, particularly Toyota for efficiency (Lean). This book by Dr. Oppenheim on lean healthcare systems engineering (LHSE) is a fresh approach that brings forth concepts that systems engineers have used in huge national defense projects. What's unique in this book is that these powerful system engineering tools are modified to be able to address smaller sized healthcare problems that still involve similar problems in fragmentation and poor communication and coordination. This book is an invaluable reference for a new powerful process named Lean Healthcare Systems Engineering (LHSE) for managing workflow and care improvement projects in all clinical environments. The book applies to ambulatory clinics and hospitals of all types including operating rooms, emergency departments, and ancillary departments, clinical and imaging laboratories, pharmacies, and population health. The book presents a generic rigorous but not mathematical step-by-step process of integrated healthcare, systems engineering and Lean. The book also contains the first major product created with the LHSE process, namely tabularized summaries of representative projects in healthcare delivery applications, called Lean Enablers for Healthcare Projects. Each full-page enabler table lists the challenges and wastes, powerful improvement goals, risks, and expected benefits, and some useful descriptions of the healthcare system of interest. The book provides user-friendly solutions to major problems in healthcare delivery operations in all clinical environments, addressing fragmentation, wastes, wrong incentives, ad-hoc and stove-piped management, lack of optimized processes, hierarchy gradient, lack of systems thinking, "blaming and shaming culture", burnout of providers and many others.

The author offers perspectives that can assist healthcare managers in achieving the highest ethical standards as they face their roles as healthcare providers, employers, and community service organizations. He also examines how to comply with relevant laws and regulations, provide high quality patient care with limited resources, and more.

A Brookings Institution Press and the National University of Singapore Press publication This is the story of the Singapore healthcare system: how it works, how it is financed, its history, where it is going, and what lessons it may hold for national health systems around the world. Singapore ranks sixth in the world in healthcare outcomes, yet spends proportionally less on healthcare than any other high-income country. This is the first book to set out a comprehensive system-level description of healthcare in Singapore, with a view to understanding what can be learned from its unique system design and development path. The lessons from Singapore will be of interest to those currently planning the future of healthcare in emerging economies, as well as those engaged in the urgent debates on healthcare in the

wealthier countries faced with serious long-term challenges in healthcare financing. Policymakers, legislators, public health officials responsible for healthcare systems planning, finance and operations, as well as those working on healthcare issues in universities and think tanks should understand how the Singapore system works to achieve affordable excellence. Drawing on the knowledge and experiences of world-renowned scientists and healthcare professionals, this important book brings together academic, medical and health systems accounts of the impact of applying qualitative research methods to transform healthcare behaviours, systems and services. It demonstrates the translation of tried-and-tested and new interventions into high-quality care delivery, improved patient pathways, and enhanced systems management. It melds social theory, health systems analysis and research methods to address real-life healthcare issues in a rich and realistic fashion. The systems and services examined include those affecting patient care and patient and professional wellbeing, and the roles and responsibilities of people providing and receiving care. Some chapters delve deeply into the human psyche, examining the very private face of health and illness. Others concentrate on public health and how people's needs can be met through health promotion and new investments. From real-time case studies to narratives on illness to theories of change, there is something here for everybody. Transforming health systems needs ingenuity – and the drive of individuals, the staying power of systems and above all the involvement of patients. Full of novel ideas and innovative solutions from around the world, all underpinned by qualitative methods and methodologies, this book is a key contribution for advanced students, practitioners and academics interested in health services research, research methods and the sociology of health and illness.

Digital Innovations in Healthcare Education and Training discusses and debates the contemporary knowledge on the evolution of digital education, learning and the web and its integration and role within modern healthcare education and training. The book encompasses topics such as healthcare and medical education theories and methodologies, social learning as a formal and informal digital innovation, and the role of semantics in digital education. In addition, it examines how simulation, serious games, and virtual patients change learnings in healthcare, and how learning analytics and big data in healthcare education leads to personalized learning. Online pedagogy principles and applications, participatory educational design and educational technology as health intervention are bridged together to complement this collaborative effort. This book is a valuable resource for a broad audience, both technical and non-technical, including healthcare and medical tutors, health professionals, clinicians, web scientists, engineers, computer scientists and any other relevant professional interested in using and creating digital innovations for healthcare education and training. Provides contemporary knowledge on the evolution of learning technologies and the web and its integration and role within modern healthcare education and training Discusses the latest digital innovation in healthcare education and training, thus enabling all type of readers to apply best practices Encompasses a cross-theme, scholarly explanation based on successful cases which provides a deep knowledge experience into digital innovation in healthcare education and training

How does the need to obtain and deliver health services engender particular (im)mobility forms? And how is mobility experienced and imagined when it is required for healthcare access or delivery? Guided by these questions, Healthcare in Motion explores the dynamic interrelationship between mobility and healthcare, drawing on case studies from across the world and shedding light on the day-to-day practices of patients and professionals.

Includes case studies for assignments and classroom discussion Covers NP practice financial management Comprehensive instructor's manual available including presentation slides, chapter guides, and grading rubrics This textbook is

designed for students preparing as advanced practice clinicians, including APRNs, DNPs, DPTs, DOTs, and physician assistants. The book covers both health policy issues and practice financial management issues. It is organized into seven sections in two parts. The first part is focused on macro issues in healthcare finance, and the second part is focused on healthcare financing management in professional practice. This approach provides the context necessary for the clinician to understand how to manage reimbursement requirements and preferred provider contracting as health care financial policy drives these payment and contracting strategies. Each section features a case study to facilitate classroom discussion on key points. This book is suitable for healthcare finance courses in the curriculum for MSN and DNP programs and also for schools of social work, medicine, occupational, and physical therapy.

An Introduction to Healthcare Informatics: Building Data-Driven Tools bridges the gap between the current healthcare IT landscape and cutting edge technologies in data science, cloud infrastructure, application development and even artificial intelligence. Information technology encompasses several rapidly evolving areas, however healthcare as a field suffers from a relatively archaic technology landscape and a lack of curriculum to effectively train its millions of practitioners in the skills they need to utilize data and related tools. The book discusses topics such as data access, data analysis, big data current landscape and application architecture. Additionally, it encompasses a discussion on the future developments in the field. This book provides physicians, nurses and health scientists with the concepts and skills necessary to work with analysts and IT professionals and even perform analysis and application architecture themselves. Presents case-based learning relevant to healthcare, bringing each concept accompanied by an example which becomes critical when explaining the function of SQL, databases, basic models etc. Provides a roadmap for implementing modern technologies and design patterns in a healthcare setting, helping the reader to understand both the archaic enterprise systems that often exist in hospitals as well as emerging tools and how they can be used together Explains healthcare-specific stakeholders and the management of analytical projects within healthcare, allowing healthcare practitioners to successfully navigate the political and bureaucratic challenges to implementation Brings diagrams for each example and technology describing how they operate individually as well as how they fit into a larger reference architecture built upon throughout the book

A Proven, Integrated Healthcare Information Technology Management Solution Co-written by a certified Project Management Professional and an M.D., Project Management for Healthcare Information Technology presents an effective methodology that encompasses standards and best practices from project management, information technology management, and change management for a streamlined transition to digital medicine. Each management discipline is examined in detail and defined as a set of knowledge areas. The book then describes the core processes that take place within each knowledge area in the

initiating, planning, executing, controlling, and closing stages of a project. Real-world examples from healthcare information technology project leaders identify how the integrated approach presented in this book leads to successful project implementations. Coverage Includes: Integrating project, information technology, and change management methodologies PMBOK Guide process groups--initiating, planning, executing, controlling, and closing Project management knowledge areas--integration, scope, time, cost, quality, human resource, communication, risk, and procurement management IT management knowledge areas--user requirements, infrastructure, conversion, software configuration, workflow, security, interface, testing, cutover, and support management Change management knowledge areas--realization, sponsorship, transformation, training, and optimization management

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Healthcare Project Management

The federal government operates six major health care programs that serve nearly 100 million Americans. Collectively, these programs significantly influence how health care is provided by the private sector. Leadership by Example explores how the federal government can leverage its unique position as regulator, purchaser, provider, and research sponsor to improve care - not only in these six programs but also throughout the nation's health care system. The book describes the federal programs and the populations they serve: Medicare (elderly), Medicaid (low income), SCHIP (children), VHA (veterans), TRICARE (individuals in the military and their dependents), and IHS (native Americans). It

then examines the steps each program takes to assure and improve safety and quality of care. The Institute of Medicine proposes a national quality enhancement strategy focused on performance measurement of clinical quality and patient perceptions of care. The discussion on which this book focuses includes recommendations for developing and pilot-testing performance measures, creating an information infrastructure for comparing performance and disseminating results, and more. Leadership by Example also includes a proposed research agenda to support quality enhancement. The third in the series of books from the Quality of Health Care in America project, this well-targeted volume will be important to all readers of *To Err Is Human* and *Crossing the Quality Chasm* - as well as new readers interested in the federal government's role in health care.

NAMED A DOODY'S CORE TITLE! Designed as both a text for the DNP curriculum and a practical resource for seasoned health professionals, this acclaimed book demonstrates the importance of using an interprofessional approach to translating evidence into nursing and healthcare practice in both clinical and nonclinical environments. This third edition reflects the continuing evolution of translation frameworks by expanding the Methods and Process for Translation section and providing updated exemplars illustrating actual translation work in population health, specialty practice, and the healthcare delivery system. It incorporates important new information about legal and ethical issues, the institutional review process for quality improvement and research, and teamwork and building teams for translation. In addition, an unfolding case study on translation is threaded throughout the text. Reorganized for greater ease of use, the third edition continues to deliver applicable theory and practical strategies to lead translation efforts and meet DNP core competency requirements. It features a variety of relevant change-management theories and presents strategies for improving healthcare outcomes and quality and safety. It also addresses the use of evidence to improve nursing education, discusses how to reduce the divide between researchers and policy makers, and describes the interprofessional collaboration imperative for our complex healthcare environment. Consistently woven throughout are themes of integration and application of knowledge into practice. **NEW TO THE THIRD EDITION:** Expands the Methods and Process for Translation section Provides updated exemplars illustrating translation work in population health, specialty practice, and the healthcare delivery system Offers a new, more user-friendly format Includes an entire new section, Enablers of Translation Delivers expanded information on legal and ethical issues Presents new chapter, Ethical Responsibilities of Translation of Evidence and Evaluation of Outcomes Weaves an unfolding case study on translation throughout the text **KEY FEATURES:** Delivers applicable theories and strategies that meet DNP core requirements Presents a variety of relevant change-management theories Offers strategies for improving outcomes and quality and safety Addresses the use of evidence to improve nursing

education Discusses how to reduce the divide between researchers and policy makers Supplies extensive lists of references, web links, and other resources to enhance learning Purchase includes digital access for use on most mobile devices or computers

This volume, developed by the Observatory together with OECD, provides an overall conceptual framework for understanding and applying strategies aimed at improving quality of care. Crucially, it summarizes available evidence on different quality strategies and provides recommendations for their implementation. This book is intended to help policy-makers to understand concepts of quality and to support them to evaluate single strategies and combinations of strategies.

Action Research in Healthcare is a practical guide to using research for improving practice in healthcare contexts. As an increasingly popular method of inquiry, action research is widely used in healthcare to investigate professional practice and patients' experience while simultaneously: - introducing innovations - planning, actioning and evaluating new ideas - seeking to improve patient care - working collaboratively. Taking you through the process step-by-step, Action Research in Healthcare explains how to tackle each stage of your project - from planning the study and undertaking a literature review, through to gathering and interpreting data and implementing findings. Examples of action research projects are included throughout to illustrate how the method works in practice. Action Research in Healthcare assumes no previous knowledge of the subject and is the ideal resource for anyone about to start or already involved in a project.

Healthcare Organizations offer significant opportunities for change and improvement in their overall performance. Hospitals and clinics are generally large, complex, and inefficient, and need serious development in process workflow and management systems, which will ultimately lead to better patient and financial outcomes. The National Academy of Medicine has stated that hospital systems are broken, and that they must begin by "... improving hospital efficiency and patient flow, and using operational management methods and information technologies." In fact, costs and quality are two of the important aspects of the "triple aim" in healthcare. One area that offers significant potential for improvement is through the application of performance improvement methods to patient and process flows. Performance improvement has a significant impact on a hospital's over financial and strategic performance. Performance improvement involves the deployment of quantitative and scientific methods to model and influence the functioning of organizations. Performance improvement professionals are tasked with managing a variety of activities, such as deploying new information technologies, serving as project managers for construction events, re-engineering departmental process workflow, eliminating bottlenecks, and improving the flow and movement of patients between resource-intensive clinical areas. All of these are high risk, and require use of advanced, sophisticated methods to improve efficiency and quality, while minimizing

disruptions from change. This updated edition is a comprehensive and concise guide to performance improvement in healthcare. It describes the management engineering principles focused on designing optimal management and information systems and processes. Case studies and examples are integrated throughout all chapters.

Experts estimate that as many as 98,000 people die in any given year from medical errors that occur in hospitals. That's more than die from motor vehicle accidents, breast cancer, or AIDS--three causes that receive far more public attention. Indeed, more people die annually from medication errors than from workplace injuries. Add the financial cost to the human tragedy, and medical error easily rises to the top ranks of urgent, widespread public problems. *To Err Is Human* breaks the silence that has surrounded medical errors and their consequence--but not by pointing fingers at caring health care professionals who make honest mistakes. After all, to err is human. Instead, this book sets forth a national agenda--with state and local implications--for reducing medical errors and improving patient safety through the design of a safer health system. This volume reveals the often startling statistics of medical error and the disparity between the incidence of error and public perception of it, given many patients' expectations that the medical profession always performs perfectly. A careful examination is made of how the surrounding forces of legislation, regulation, and market activity influence the quality of care provided by health care organizations and then looks at their handling of medical mistakes. Using a detailed case study, the book reviews the current understanding of why these mistakes happen. A key theme is that legitimate liability concerns discourage reporting of errors--which begs the question, "How can we learn from our mistakes?" Balancing regulatory versus market-based initiatives and public versus private efforts, the Institute of Medicine presents wide-ranging recommendations for improving patient safety, in the areas of leadership, improved data collection and analysis, and development of effective systems at the level of direct patient care. *To Err Is Human* asserts that the problem is not bad people in health care--it is that good people are working in bad systems that need to be made safer. Comprehensive and straightforward, this book offers a clear prescription for raising the level of patient safety in American health care. It also explains how patients themselves can influence the quality of care that they receive once they check into the hospital. This book will be vitally important to federal, state, and local health policy makers and regulators, health professional licensing officials, hospital administrators, medical educators and students, health caregivers, health journalists, patient advocates--as well as patients themselves. First in a series of publications from the Quality of Health Care in America, a project initiated by the Institute of Medicine

This volume is a scientific introduction to the study, engineering and applications of medical textiles. It moves systematically from the fundamentals of textile materials and their fabrication through biocompatibility and biodegradability to the

applications of textiles in healthcare, ranging from hygiene to wound care, grafts and implantables. The book analyzes how the internal structures of various types of textiles, wovens, knits and nonwovens, are related to specific medical/biomedical end uses. While carefully explaining the basics, the book aims to show the connection between textile properties and the design and development of medical and healthcare textile products. This text is designed for advanced students and industry-based textile researchers, engineers, and product developers.

Project management skills are valuable for any healthcare project, not just technology projects. Non-technology activities that would benefit from project management skills include implementing a new policy housewide, updating training for use of the electronic health record (EHR), creating a new orientation program, quality assurance activities, submitting an article or presentation, writing a research proposal, or opening a new patient care unit. In addition, project management skills are not just for project managers, but they can be used by anyone leading these types of activities, such as managers, staff, educators, and researchers. Many books on healthcare project management have been focused on technology projects while non-technology projects flounder without the required knowledge or skills of the person leading the project. The purpose of this book is to discuss these skills based on the Project Management Institute (PMI) standards in a way that non-project managers would be able to understand and apply. Concepts from project initiation through project closure will be presented twice, first for novices and then for project leaders with more advanced skills. Practical, accessible, and containing numerous examples for each phase of the PMI Framework, this book will be a valuable resource for all healthcare professionals and both novice and experienced project managers.

This book provides readers with a detailed orientation to healthcare simulation research, aiming to provide descriptive and illustrative accounts of healthcare simulation research (HSR). Written by leaders in the field, chapter discussions draw on the experiences of the editors and their international network of research colleagues. This seven-section practical guide begins with an introduction to the field by relaying the key components of HSR. Sections two, three, four, and five then cover various topics relating to research literature, methods for data integration, and qualitative and quantitative approaches. Finally, the book closes with discussions of professional practices in HSR, as well as helpful tips and case studies. Healthcare Simulation Research: A Practical Guide is an indispensable reference for scholars, medical professionals and anyone interested in undertaking HSR.

Create real-world machine learning solutions using NumPy, pandas, matplotlib, and scikit-learn
Key Features Develop a range of healthcare analytics projects using real-world datasets
Implement key machine learning algorithms using a range of libraries from the Python ecosystem
Accomplish intermediate-to-complex tasks by building smart AI applications using neural network

methodologies Book Description Machine Learning (ML) has changed the way organizations and individuals use data to improve the efficiency of a system. ML algorithms allow strategists to deal with a variety of structured, unstructured, and semi-structured data. Machine Learning for Healthcare Analytics Projects is packed with new approaches and methodologies for creating powerful solutions for healthcare analytics. This book will teach you how to implement key machine learning algorithms and walk you through their use cases by employing a range of libraries from the Python ecosystem. You will build five end-to-end projects to evaluate the efficiency of Artificial Intelligence (AI) applications for carrying out simple-to-complex healthcare analytics tasks. With each project, you will gain new insights, which will then help you handle healthcare data efficiently. As you make your way through the book, you will use ML to detect cancer in a set of patients using support vector machines (SVMs) and k-Nearest neighbors (KNN) models. In the final chapters, you will create a deep neural network in Keras to predict the onset of diabetes in a huge dataset of patients. You will also learn how to predict heart diseases using neural networks. By the end of this book, you will have learned how to address long-standing challenges, provide specialized solutions for how to deal with them, and carry out a range of cognitive tasks in the healthcare domain. What you will learn Explore super imaging and natural language processing (NLP) to classify DNA sequencing Detect cancer based on the cell information provided to the SVM Apply supervised learning techniques to diagnose autism spectrum disorder (ASD) Implement a deep learning grid and deep neural networks for detecting diabetes Analyze data from blood pressure, heart rate, and cholesterol level tests using neural networks Use ML algorithms to detect autistic disorders Who this book is for Machine Learning for Healthcare Analytics Projects is for data scientists, machine learning engineers, and healthcare professionals who want to implement machine learning algorithms to build smart AI applications. Basic knowledge of Python or any programming language is expected to get the most from this book.

Drawing on the expertise of decision-making professionals, leaders, and managers in health care organizations, *Hospitals & Health Care Organizations: Management Strategies, Operational Techniques, Tools, Templates, and Case Studies* addresses decreasing revenues, increasing costs, and growing consumer expectations in today's increasingly competitive health care market. Offering practical experience and applied operating vision, the authors integrate Lean managerial applications, and regulatory perspectives with real-world case studies, models, reports, charts, tables, diagrams, and sample contracts. The result is an integration of post PP-ACA market competition insight with Lean management and operational strategies vital to all health care administrators, comptrollers, and physician executives. The text is divided into three sections: Managerial Fundamentals Policy and Procedures Strategies and Execution Using an engaging style, the book is filled with authoritative guidance, practical health care-centered discussions, templates, checklists, and clinical examples to

provide you with the tools to build a clinically efficient system. Its wide-ranging coverage includes hard-to-find topics such as hospital inventory management, capital formation, and revenue cycle enhancement. Health care leadership, governance, and compliance practices like OSHA, HIPAA, Sarbanes–Oxley, and emerging ACO model policies are included. Health 2.0 information technologies, EMRs, CPOEs, and social media collaboration are also covered, as are 5S, Six Sigma, and other logistical enhancing flow-through principles. The result is a must-have, "how-to" book for all industry participants.

As a growing number of healthcare organizations implement project management principles to improve cost and service efficiencies, they are in desperate need of resources that illustrate the project management needs of today's healthcare professional. *Project Management for Healthcare* fills this need. Using easy-to-follow language, it expl

Improving our nation's healthcare system is a challenge which, because of its scale and complexity, requires a creative approach and input from many different fields of expertise. Lessons from engineering have the potential to improve both the efficiency and quality of healthcare delivery. The fundamental notion of a high-performing healthcare system--one that increasingly is more effective, more efficient, safer, and higher quality--is rooted in continuous improvement principles that medicine shares with engineering. As part of its Learning Health System series of workshops, the Institute of Medicine's Roundtable on Value and Science-Driven Health Care and the National Academy of Engineering, hosted a workshop on lessons from systems and operations engineering that could be applied to health care. Building on previous work done in this area the workshop convened leading engineering practitioners, health professionals, and scholars to explore how the field might learn from and apply systems engineering principles in the design of a learning healthcare system. *Engineering a Learning Healthcare System: A Look at the Future: Workshop Summary* focuses on current major healthcare system challenges and what the field of engineering has to offer in the redesign of the system toward a learning healthcare system.

Introduction to Healthcare Quality Management, Second Edition, explains the basic principles and techniques of quality management in healthcare. This second edition features a new chapter devoted exclusively to the use of high-reliability concepts that help organizations achieve safety, quality, and efficiency goals. By using this easy-to-read book, complete with helpful charts and diagrams, your students will examine a range of topics, from measuring performance to creating high-quality services that result in satisfied customers. The book is packed with practical examples and case studies that apply quality concepts and tools to real-life situations. Each chapter contains a list of key words and a glossary to help students understand the vocabulary of healthcare quality management. As an added bonus to this edition, each chapter includes an expanded list of websites to find additional resources to customize and enhance your education. Your students will learn about the following topics: Quality

characteristics most important to healthcare stakeholders, including payers and consumers Regulatory mandates and accreditation standards that influence healthcare quality activities Proper techniques for gathering and effectively analyzing healthcare performance measurement data New technology-based services that will improve the patient experience Key tactics and strategies that organizational leaders and improvement project teams must implement to accomplish quality goals Methods for redesigning healthcare processes to achieve more reliable performance Patient safety initiatives that reduce harmful medical errors Resource management activities that improve continuity of care and prevent service over and underuse Organizational factors that affect quality management and performance reliability. Instructor resources include a test bank, PowerPoint slides, and answers to in-book questions. A transition guide is available in the tab above.

Is Lean a fit for your healthcare organization? Various methodologies can be used to help organizations achieve their objectives depending on their criteria: lowest risk of failure, fast to resolution, or lowest cost for deployment. But what every organization should consider is which methodology will have the greatest impact. Lean, a systematic approach to understanding and optimizing processes, may be the fit for your organization. Learn more in this new IBM® Redpaper™ publication, *A Guide to Lean Healthcare Workflows*, by Jerry Green and Amy Valentini of Phytel (An IBM Company). The paper delves into the five steps of Lean: Define value from the patient's perspective Map the value stream, and identify issues and constraints Remove waste, and make the value flow without interruption Implement the solution, and allow patients to pull value Maintain the gain, and pursue perfection It describes each step in-depth and includes techniques, example worksheets, and materials that can be used during the overall analysis and implementation process. And it provides insights that are derived from the real-world experience of the authors. This paper is intended to serve as a guide for readers during a process-improvement project and is not necessarily intended to be read end-to-end in one sitting. It is written primarily for clinical practitioners to use as a step-by-step guide to lean out clinical workflows without having to rely on complex statistical hypothesis-testing tools. This guide can also be used by clinical or nonclinical practitioners in non-patient-centered workflows. The steps are based on a universal Lean language that uses industry-standard terms and techniques and, therefore, can be applied to almost any process.

This book aims to demonstrate the benefits of implementing Industry 4.0 in healthcare services and to recommend a framework to support this implementation. Key topics in this book include: (1) Discovering emerging technologies and techniques to support Healthcare 4.0, this includes the Internet of Things (IOT) , Big data analytics, Blockchain, Artificial Intelligence (AI) , Optimisation and Predictive Analytics; (2) Illustrating some examples of such advanced implementation in Healthcare 4.0; (3) Recommending a development

process to develop health technology start-ups and entrepreneurial activities; and (4) Discuss the transformation methodology used to redesign healthcare processes in order to overcome the challenges of implementing a Healthcare 4.0 project.

The rapid growth of software applications within healthcare organizations has made it essential to have defined methodologies and formal processes for the management of the entire Information Technology (IT) portfolio. Utilizing a portfolio management framework throughout an application's lifecycle will provide the necessary structure to ensure that all new applications are properly evaluated, and, once implemented, remain relevant while continuing to meet organizational requirements. While an organization may have a few large "organization-wide" systems such as the Electronic Health Record (EHR), lab or radiology systems, they also have a large quantity of other clinical, administrative, and research systems. Some larger organizations now have hundreds of software applications to support and manage. The IT staff must be able to implement new requests while still maintaining the current application portfolio. Utilizing a standard repeatable process will help to manage these large portfolios of software applications. This book reviews the management of applications throughout their lifecycle, from initial request through disposition. Best practices dictate that every newly requested application undergoes analysis followed by an approval decision from the organization's governance committee. The initial implementation project must include activities to prepare for ongoing support while ensuring the application is compliant with all security, privacy, and architecture requirements. An application spends years in operations and maintenance where changes occur regularly through configuration and release management, or additional projects. The cycle continues until disposition. Understanding when to dispose of an application is just as important as deciding when to implement a new one. A defined process for disposing of an application ensures all parts are properly removed or destroyed.

The Institute of Medicine study *Crossing the Quality Chasm* (2001) recommended that an interdisciplinary summit be held to further reform of health professions education in order to enhance quality and patient safety. *Health Professions Education: A Bridge to Quality* is the follow up to that summit, held in June 2002, where 150 participants across disciplines and occupations developed ideas about how to integrate a core set of competencies into health professions education. These core competencies include patient-centered care, interdisciplinary teams, evidence-based practice, quality improvement, and informatics. This book recommends a mix of approaches to health education improvement, including those related to oversight processes, the training environment, research, public reporting, and leadership. Educators, administrators, and health professionals can use this book to help achieve an approach to education that better prepares clinicians to meet both the needs of patients and the requirements of a changing health care system.

Most of the current literature on healthcare operations management is focused on importing principles and methods from manufacturing. The evidence of success is scattered and nowhere near what has been achieved in other industries. This book develops the idea that the logic of production, and production systems in healthcare is significantly different. A line of thinking that acknowledges the ingenious characteristics of health service production is developed. This book builds on a managerial segmentation of healthcare based on fundamental demand-supply constellations. Demand can be classified with the variables urgency, severity, and randomness. Supply is constrained by medical technology (accuracy of diagnostics, efficacy of therapies), patient health behavior (co-creation of health), and resource availability. Out of this emerge seven demand-supply-based operational types (DSO): prevention, emergencies, one-visit, electives, cure, care, and projects. Each of these have distinct managerial characteristics, such as time-perspective, level of co-creation, value proposition, revenue structure, productivity and other key performance indicators (KPI). The DSOs can be envisioned as platforms upon which clinical modules are attached. For example, any Emergency Department (ED) must be managed to deal with prioritization, time-windows, agitated patients, the necessity to save and stabilize, and variability in demand. Specific clinical assets and skill-sets are required for, say, massive trauma, strokes, cardiac events, or poisoning. While representing different specialties of clinical medicine they, when applied in the emergency – context, must conform to the demand-supply-based operating logic. A basic assumption in this book is that the perceived complexity of healthcare arises from the conflicting demands of the DSO and the clinical realms. The seven DSOs can neatly be juxtaposed on the much-used Business Model Canvas (BMC), which postulates the business model elements as value proposition; customer segments, channels and relations; key activities, resources and partners; the cost structure; and the revenue model.

Discover exciting behind-the-scenes opportunities and challenges in technology today with Schwalbe's unique INFORMATION TECHNOLOGY PROJECT MANAGEMENT, REVISED 7E. This one-of-a-kind book demonstrates the principles distinctive to managing information technology (IT) projects that extend well beyond standard project management requirements. No book offers more up-to-the minute insights and software tools for IT project management success, including updates that reflect the latest PMBOK Guide, 5th edition, the global standard for managing projects and earning certification. The book weaves today's theory with successful practices for an understandable, integrated presentation that focuses on the concepts, tools, and techniques that are most effective today. INFORMATION TECHNOLOGY PROJECT MANAGEMENT is the only book to apply all ten project management knowledge areas to IT projects. You master skills in project integration, scope, time, cost, quality, human resource, communications, risk, procurement, and stakeholder management as well as all five process groups--initiating, planning, executing, monitoring and

controlling, and closing. Intriguing examples from familiar companies featured in today's news, a new Agile case, opportunities with MindView software, and a new chapter on project stakeholder management further ensure you are equipped to manage information technology projects with success. The REVISED Seventh Edition has updated Appendix A for Microsoft Project 2013. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Healthcare transformation requires us to continually look at new and better ways to manage insights – both within and outside the organization today. Increasingly, the ability to glean and operationalize new insights efficiently as a byproduct of an organization's day-to-day operations is becoming vital to hospitals and health systems ability to survive and prosper. One of the long-standing challenges in healthcare informatics has been the ability to deal with the sheer variety and volume of disparate healthcare data and the increasing need to derive veracity and value out of it. *Demystifying Big Data and Machine Learning for Healthcare* investigates how healthcare organizations can leverage this tapestry of big data to discover new business value, use cases, and knowledge as well as how big data can be woven into pre-existing business intelligence and analytics efforts. This book focuses on teaching you how to:

- Develop skills needed to identify and demolish big-data myths
- Become an expert in separating hype from reality
- Understand the V's that matter in healthcare and why
- Harmonize the 4 C's across little and big data
- Choose data fidelity over data quality
- Learn how to apply the NRF Framework
- Master applied machine learning for healthcare
- Conduct a guided tour of learning algorithms
- Recognize and be prepared for the future of artificial intelligence in healthcare via best practices, feedback loops, and contextually intelligent agents (CIAs)

The variety of data in healthcare spans multiple business workflows, formats (structured, un-, and semi-structured), integration at point of care/need, and integration with existing knowledge. In order to deal with these realities, the authors propose new approaches to creating a knowledge-driven learning organization-based on new and existing strategies, methods and technologies. This book will address the long-standing challenges in healthcare informatics and provide pragmatic recommendations on how to deal with them.

The anthrax incidents following the 9/11 terrorist attacks put the spotlight on the nation's public health agencies, placing it under an unprecedented scrutiny that added new dimensions to the complex issues considered in this report. *The Future of the Public's Health in the 21st Century* reaffirms the vision of *Healthy People 2010*, and outlines a systems approach to assuring the nation's health in practice, research, and policy. This approach focuses on joining the unique resources and perspectives of diverse sectors and entities and challenges these groups to work in a concerted, strategic way to promote and protect the public's health. Focusing on diverse partnerships as the framework for public health, the book discusses: The need for a shift from an individual to a population-based

approach in practice, research, policy, and community engagement. The status of the governmental public health infrastructure and what needs to be improved, including its interface with the health care delivery system. The roles nongovernment actors, such as academia, business, local communities and the media can play in creating a healthy nation. Providing an accessible analysis, this book will be important to public health policy-makers and practitioners, business and community leaders, health advocates, educators and journalists.

Enterprise Agility in Healthcare explains why agility is vital to organizational survival. It details the critical variables that only executive leaders can address in a way that ensures success. It uses the experiences of two major healthcare organizations in order to frame the situational context surrounding the variables and then explains why and how the leaders in those organizations made choices that proved to be extraordinarily successful ... in the real world! The common challenge shared by healthcare, aerospace, and information-centric industries of every type is the extraordinary complexity and uncertainty driven by the enormous number of individual, yet codependent factors, whether in humans and their cellular functioning, or vehicles and the interaction of materials and environment, requiring leaders and decision-makers at every level to connect, interact, and synthesize vital, fluctuating data, typically via technology-intermediated network structures with varying content and scale. The networks may be obvious, like the organizational structure, while others are more abstract or virtual, like social networks and ecosystems. Despite healthcare's amazing success in improving the quality and average lifespan of human beings, the maximum lifespan remains unchanged at no more than 125 years. Very few healthcare organizations live for much longer, with most disappearing before reaching one-third of that lifespan. How systems, people, and culture respond as organizational size changes is a challenge and also an opportunity in scaling for any information-centric industry. This book will use the actual, real-world experiences of two, very successful healthcare organizations to provide specific, actionable insights into the principles and practices that provoke success. Because scaling plays a determinative role in the successful design of everything from airplanes to skyscrapers, its impact on how effective and efficient an organization is remains a continuous challenge. Perhaps understanding scaling is of greater urgency due to the increasingly large and complex structures required for companies, institutions and governments to continuously evolve the complex adaptive systems they have become. This book focuses on organizational expansion in healthcare. By examining two organizations with similar, yet very different growth experiences, this book demonstrates very successful, very real outcomes while offering key insights into the principles and practices that drove them.

Machine learning and analytics have been widely utilized across the healthcare sector of late. This book will bridge the gap between practicing doctors and you as a data scientist. You will learn how to work with healthcare data and gain

better insight from this data to improve healthcare outcomes.

Strategic Planning in Healthcare: An Introduction for Health Professionals is a practical guide to the theory of strategic planning and the principles of strategic management that apply to all organizational settings, including large health care networks, small practices, and public health institutions among many others. This text provides a solid theoretical framework, supplemented with examples and a common case, which is reinforced by hands-on practical student exercises and chapter-specific worksheets. It examines strategy-making issues from the initial assessment of the organization and competitive landscape, through situational analysis of economic incentives, creation of objectives and measurement, formulation of financial and operational strategies, and the development of mission and goals, effectively allowing students to apply concepts at each stage of the planning cycle. Throughout, this book explains different tactics for implementation and evaluation, the principles of integrating evaluation and control, and other factors that affect competitive positioning and performance in health service organizations. This hands-on text incorporates real-world examples and case studies so that the content can be digested easily in undergraduate and graduate courses alike and can be applied to an individual or group project to encourage application and experiential learning. Written by an experienced strategic planner and educator, this foundational textbook prepares public health students, health care administration students, and related health professionals to develop their own effective strategic plans that achieve performance excellence. **Key Features:** Provides a thorough, step-by-step review of the strategic planning process in health care organizations with a strong theoretical framework Detailed Case Studies using a fictionalized healthcare organization conclude each chapter Includes strategic planning chapter-specific worksheets that allow students to develop a quasi-strategic plan Real-world sample strategic plans from across the healthcare industry Access to the downloadable eBook

Through its use of real clinical examples, this book provides an explanation of the project management process tailored for nurses. It first describes, in detail, the project management process along with its relationship to the phases of the project life cycle. Coverage includes the tools available to successfully complete each phase of the project management process and advance the project life cycle. With the aid of case studies and project examples, the book then examines how to apply these principles in the day-to-day work of the nurse, whether manager, staff nurse, educator, researcher, or informatician.

Consumer health websites have garnered considerable media attention, but only begin to scratch the surface of the more pervasive transformations the Internet could bring to health and health care. **Networking Health** examines ways in which the Internet may become a routine part of health care delivery and payment, public health, health education, and biomedical research. Building upon a series of site visits, this book: Weighs the role of the Internet versus private networks in

uses ranging from the transfer of medical images to providing video-based medical consultations at a distance. Reviews technical challenges in the areas of quality of service, security, reliability, and access, and looks at the potential utility of the next generation of online technologies. Discusses ways health care organizations can use the Internet to support their strategic interests and explores barriers to a broader deployment of the Internet. Recommends steps that private and public sector entities can take to enhance the capabilities of the Internet for health purposes and to prepare health care organizations to adopt new Internet-based applications.

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