Improving Patient Flow In The NHS
Care By Design

The recent movement in healthcare reform requires hospitals to care for more patients while simultaneously reducing costs. Medical institutions can no longer afford to simply add beds and hire staff to increase capacity. They must use existing resources more effectively and develop innovative solutions to increase capacity. This project focuses on the redesign of surgical patient flow through multiple Post-Anesthesia Care Units (PACUs) at Massachusetts General Hospital (MGH). The PACU is where surgical patients recover following their procedure that takes place in the Operating Room (OR) suite. Some patients experience delays when leaving the OR due to the lack of a staffed PACU bed. These patients begin the recovery process in the OR which causes delays for to-follow cases. In addition, the OR nursing staff rather than a PACU nurse must monitor recovery, which drives higher costs and frustrates staff members. Therefore this study examined the sources of delay and sought to redesign the flow of surgical patients through the PACUs. Our main recommendation is to incorporate a "Fast Track" for the outpatient population that eliminates delays and expedites outpatient processing in the PACU. Segregating the outpatients and implementing the one-stop "Fast Track" recovery process will reduce average outpatient PACU length of stay (length of stay) by 27%, the equivalent of adding 1.8 beds of capacity. Through the application of operations management techniques, we can decrease the patient
processing time or length of stay in the PACU, which in turn increases throughput and creates additional capacity.

This two-volume set CCIS 751 and CCIS 752 constitutes the proceedings of the 17th Asia Simulation Conference, AsiaSim 2017, held in Malacca, Malaysia, in August/September 2017. The 124 revised full papers presented in this two-volume set were carefully reviewed and selected from 267 submissions. The papers contained in these proceedings address challenging issues in modeling and simulation in various fields such as embedded systems; symbiotic simulation; agent-based simulation; parallel and distributed simulation; high performance computing; biomedical engineering; big data; energy, society and economics; medical processes; simulation language and software; visualization; virtual reality; modeling and Simulation for IoT; machine learning; as well as the fundamentals and applications of computing.

Quality by Design reflects the research and applied training conducted at Dartmouth Medical School under the leadership of Gene Nelson, Paul Batalden, and Marjorie Godfrey. The book includes the research results of high-performing clinical microsystems, illustrative case studies that highlight individual clinical programs, guiding principles that are easily applied, and tools, techniques, and methods that can be adapted by clinical practices and interdisciplinary clinical teams. The authors describe how to develop microsystems that can attain peak performance through active engagement of interdisciplinary teams in learning and applying
improvement science and measurement; explore the essence of leadership for clinical Microsystems; show what mid-level leaders can do to enable peak performance at the front lines of care; outline the design and redesign of services and planning care to match patient needs with services offered; examine the issue of safety; describe the vital role of data in creating a rich and useful information environment; provide a core curriculum that can build microsystems’ capability, provide excellent care, promote a positive work environment, and contribute to the larger organization. Ancillary materials for use in classroom teaching, training, or coaching are available at https://clinicalmicrosystem.org/

This book is dedicated to improving healthcare through reducing delays experienced by patients. With an interdisciplinary approach, this new edition, divided into five sections, begins by examining healthcare as an integrated system. Chapter 1 provides a hierarchical model of healthcare, rising from departments, to centers, regions and the “macro system.” A new chapter demonstrates how to use simulation to assess the interaction of system components to achieve performance goals, and Chapter 3 provides hands-on methods for developing process models to identify and remove bottlenecks, and for developing facility plans. Section 2 addresses crowding and the consequences of delay. Two new chapters (4 and 5) focus on delays in emergency departments, and Chapter 6 then examines medical outcomes that result from waits for surgeries. Section 3 concentrates on management of demand.
Chapter 7 presents breakthrough strategies that use real-time monitoring systems for continuous improvement. Chapter 8 looks at the patient appointment system, particularly through the approach of advanced access. Chapter 9 concentrates on managing waiting lists for surgeries, and Chapter 10 examines triage outside of emergency departments, with a focus on allied health programs. Section 4 offers analytical tools and models to support analysis of patient flows. Chapter 11 offers techniques for scheduling staff to match patterns in patient demand. Chapter 12 surveys the literature on simulation modeling, which is widely used for both healthcare design and process improvement. Chapter 13 is new and demonstrates the use of process mapping to represent a complex regional trauma system. Chapter 14 provides methods for forecasting demand for healthcare on a region-wide basis. Chapter 15 presents queueing theory as a method for modeling waits in healthcare, and Chapter 16 focuses on rapid delivery of medication in the event of a catastrophic event. Section 5 focuses on achieving change. Chapter 17 provides a diagnostic for assessing the state of a hospital and using the state assessment to select improvement strategies. Chapter 18 demonstrates the importance of optimizing care as patients transition from one care setting to the next. Chapter 19 is new and shows how to implement programs that improve patient satisfaction while also improving flow. Chapter 20 illustrates how to evaluate the overall portfolio of patient diagnostic groups to guide system changes, and Chapter 21 provides project management tools to guide the execution of patient flow.
projects.
The present book includes a set of selected extended papers from the 4th International Conference on Simulation and Modeling Methodologies, Technologies and Applications (SIMULTECH 2014), held in Vienna, Austria, from 28 to 30 August 2014. The conference brought together researchers, engineers and practitioners interested in methodologies and applications of modeling and simulation. New and innovative solutions are reported in this book.
SIMULTECH 2014 received 167 submissions, from 45 countries, in all continents. After a double blind paper review performed by the Program Committee, 23% were accepted as full papers and thus selected for oral presentation. Additional papers were accepted as short papers and posters. A further selection was made after the Conference, based also on the assessment of presentation quality and audience interest, so that this book includes the extended and revised versions of the very best papers of SIMULTECH 2014. Commitment to high quality standards is a major concern of SIMULTECH that will be maintained in the next editions, considering not only the stringent paper acceptance ratios but also the quality of the program committee, keynote lectures, participation level and logistics.
The seven-volume set LNCS 12137, 12138, 12139, 12140, 12141, 12142, and 12143 constitutes the proceedings of the 20th International Conference on Computational Science, ICCS 2020, held in Amsterdam, The Netherlands, in June 2020.* The total of 101 papers and 248 workshop papers presented in this book set
were carefully reviewed and selected from 719 submissions (230 submissions to the main track and 489 submissions to the workshops). The papers were organized in topical sections named: Part I: ICCS Main Track Part II: ICCS Main Track Part III: Advances in High-Performance Computational Earth Sciences: Applications and Frameworks; Agent-Based Simulations, Adaptive Algorithms and Solvers; Applications of Computational Methods in Artificial Intelligence and Machine Learning; Biomedical and Bioinformatics Challenges for Computer Science Part IV: Classifier Learning from Difficult Data; Complex Social Systems through the Lens of Computational Science; Computational Health; Computational Methods for Emerging Problems in (Dis-)Information Analysis Part V: Computational Optimization, Modelling and Simulation; Computational Science in IoT and Smart Systems; Computer Graphics, Image Processing and Artificial Intelligence Part VI: Data Driven Computational Sciences; Machine Learning and Data Assimilation for Dynamical Systems; Meshfree Methods in Computational Sciences; Multiscale Modelling and Simulation; Quantum Computing Workshop Part VII: Simulations of Flow and Transport: Modeling, Algorithms and Computation; Smart Systems: Bringing Together Computer Vision, Sensor Networks and Machine Learning; Software Engineering for Computational Science; Solving Problems with Uncertainties; Teaching Computational Science; UNcErtainty QUantIficatiOn for ComputationalAl modeLs *The conference was canceled due to the COVID-19 pandemic.
Emergency Department Compliance Manual provides everything you need to stay in compliance with complex emergency department regulations, including such topics as legal compliance questions and answers—find the legal answers you need in seconds; Joint Commission survey questions and answers—get inside guidance from colleagues who have been there; hospital accreditation standard analysis—learn about the latest Joint Commission standards as they apply to the emergency department; and reference materials for emergency department compliance. The Manual offers practical tools that will help you and your department comply with emergency department-related laws, regulations, and accreditation standards. Because of the Joint Commission's hospital-wide, function-based approach to evaluating compliance, it's difficult to know specifically what's expected of you in the ED. Emergency Department Compliance Manual includes a concise grid outlining the most recent Joint Commission standards, which will help you understand your compliance responsibilities. Plus, Emergency Department Compliance Manual includes sample documentation and forms that hospitals across the country have used to show compliance with legal requirements and Joint Commission standards. Previous Edition: Emergency Department Compliance Manual, 2018 Edition, ISBN: 9781454889427.

Healthcare Technology Management: A Systematic Approach offers a comprehensive description of a method for providing safe and cost effective healthcare technology management (HTM). The approach is directed to enhancing the value (benefit in relation to cost) of the medical equipment assets of healthcare organizations to best support patients, clinicians and other care providers, as well as financial stakeholders. The authors propose a management model based on interlinked strategic and operational quality cycles which,
when fully realized, delivers a comprehensive and transparent methodology for implementing a HTM programme throughout a healthcare organization. The approach proposes that HTM extends beyond managing the technology in isolation to include advancing patient care through supporting the application of the technology. The book shows how to cost effectively manage medical equipment through its full life cycle, from acquisition through operational use to disposal, and to advance care, adding value to the medical equipment assets for the benefit of patients and stakeholders. This book will be of interest to practicing clinical engineers and to students and lecturers, and includes self-directed learning questions and case studies. Clinicians, Chief Executive Officers, Directors of Finance and other hospital managers with responsibility for the governance of medical equipment will also find this book of interest and value. For more information about the book, please visit: www.htmbook.com Tackle the issues of space capacity, utilization, patient flow and technology in this best-selling book for medical practice management.

Simple Steps to Improve Patient Safety, Patient Flow and the Bottom Line A Doody's Core Title for 2020! This thoroughly revised resource shows, step-by-step, how to simplify, streamline, analyze, and optimize healthcare performance using tested Lean Six Sigma and change management techniques. Lean Six Sigma for Hospitals, Second Edition, follows the patient from the front door of the hospital or emergency room all the way through discharge. The book fully explains how to improve operations and quality of care while dramatically reducing costs—often in just five days. Real-world case studies from major healthcare institutions illustrate successful implementations of Lean Six Sigma. Coverage includes: • Lean Six Sigma for hospitals, emergency departments, operating rooms, medical imaging facilities,
nursing units, pharmacies, and ICUs • Patient flow and quality • Clinical staff • Order and claims accuracy • Billing and collection • Defect and medical error reduction • Excel power tools for Lean Six Sigma • Data mining and analysis • Process flow charts and control charts • Laser-focused process innovation • Statistical tools for Lean Six Sigma • Planning and implementation

Featuring a number of case studies and a theoretical framework, this textbook leads the reader across geographical boundaries and through the logical steps in health operations management. The authors explore its development as a tool for monitoring and controlling the use of valuable resources.

This book is dedicated to improving healthcare through reducing the delays experienced by patients. It is the first book treatment to have reduction in patient delay as its sole focus, and therefore, provides the foundation by which hospitals can implement change. In short, the book provides "hands-on" discussion and methods for solving a variety of problems, and is a guide to motivate change in Health Care Systems around the world.

Abstract: As a result of increasing complexity of the health care system in the United States, along with increasing government and customers demand for better services, the need for an efficient quality improvement method such as Six Sigma is quickly gaining recognition. This study explains various Six Sigma critical success factors such as leadership, customer satisfaction, team building and training. Lean method of process improvement is also introduced; various statistical tools are used with the purpose of identifying the current admissions cycle time of a hospital and the floors that may need improvement and further analysis. The results of the statistical analysis showed that most floors are not meeting the benchmarked admissions time of two hours or
less in a consistent manner; some floors have outliers or excessive delays in admissions. Lastly, the analysis showed that delays in admissions may not necessarily be caused by the number of patients admitted.

Emergency Department Compliance Manual provides everything you need to stay in compliance with complex emergency department regulations, including such topics as legal compliance questions and answers--find the legal answers you need in seconds; Joint Commission survey questions and answers--get inside guidance from colleagues who have been there; hospital accreditation standard analysis--learn about the latest Joint Commission standards as they apply to the emergency department; and reference materials for emergency department compliance. The Manual offers practical tools that will help you and your department comply with emergency department-related laws, regulations, and accreditation standards. Because of the Joint Commission's hospital-wide, function-based approach to evaluating compliance, it's difficult to know specifically what's expected of you in the ED. Emergency Department Compliance Manual includes a concise grid outlining the most recent Joint Commission standards, which will help you learn understand your compliance responsibilities. Plus, Emergency Department Compliance Manual includes sample documentation and forms that hospitals across the country have used to show compliance with legal requirements and Joint Commission standards. Previous Edition: Emergency Department Compliance Manual, 2017 Edition, ISBN: 9781454886693

This document provides guidance on designing and optimising health care systems to improve patient flow and subsequently focuses on the management of admissions, discharges and follow-ups which forms a solid base for improvement activities across planned care in Scotland.
This text uses a case-based approach to share knowledge and techniques on how to operationalize much of the theoretical underpinnings of hospital quality and safety. Written and edited by leaders in healthcare, education, and engineering, these 22 chapters provide insights as to where the field of improvement and safety science is with regards to the views and aspirations of healthcare advocates and patients. Each chapter also includes vignettes to further solidify the theoretical underpinnings and drive home learning. End of chapter commentary by the editors highlight important concepts and connections between various chapters in the text. Patient Safety and Quality Improvement in Healthcare: A Case-Based Approach presents a novel approach towards hospital safety and quality with the goal to help healthcare providers reach zero harm within their organizations.

In today's increasingly strained health care environment, our nation's hospital emergency departments (EDs) provide a critical primary and emergency care safety net for Americans in every community. Yet over the last decade, studies have deemed the country's EDs to be at a breaking point, weighed down by crowding as patient volumes have steadily increased, while at the same time, capacity has decreased. The Urgent Matters Learning Network II (LN II) is a collaborative of six participating hospitals nationwide that are working together over an 18-month period to identify, develop and implement strategies to improve patient flow and reduce ED crowding.

Despite pressure from the private sector to market their own custom solutions, the healthcare industry is coming around to the idea of applying the strategies of collaboration, open solutions, and innovation to meet the ever-changing demands for healthcare information to support quality and safety. This book provides a roadmap for improving quality of care using
Electronic Health Records (EHR) and interoperable, consumer-centric health information solutions. Important Notice: The digital edition of this book is missing some of the images or content found in the physical edition.

Learning Report: Improving Patient Flow: how Two Trusts Focuses on Flow to Improve the Quality of Care and Use Available Capacity

Improving Patient Flow in a Pediatric Practice

Improving the System, Meeting the Challenge

Improving Patient Flow for Electives: a Toolkit for District Health Boards


McGraw Hill Professional


Die Übersetzung dieses Buchs wurde vom Six-Sigma-Experten Dirk Dose, Partner bei der PPI AG (www.sixsigma.de), und seinem Team vorgenommen. Er verfügt über umfangreiche Beratungspraxis mit Prozessoptimierungsprojekten, bei denen Six Sigma zur Verbesserung von Geschäftsprozessen eingesetzt wurde. Lean Six Sigma ist eine der führenden Techniken zur Maximierung der Prozesseffizienz und zur Steuerung jedes Schritts eines Geschäftsprozesses. Mit dem Lean Six Sigma Toolbook werden Sie entdecken, wie Sie Ihr Unternehmen auf ein neues Niveau der Wettbewerbsfähigkeit heben können.
Patient flow is one of the costliest and oft-cited challenges facing hospitals today, and solutions can be expensive or complicated. In light of huge regulatory and financial implications, it is vital that all hospital staff—regardless of their role—learn how they can help to improve patient flow. With hospitals increasingly under the microscope of regulators like the JCAHO and CMS, this video uses sample scenarios to train staff effectively. Small, everyday actions can have a major impact on patient throughput, and this video emphasizes how seemingly minor delays can hinder patient flow and impact patient safety.

Apply engineering and design principles to revitalize the healthcare delivery system

Healthcare Systems Engineering is the first engineering book to cover this emerging field, offering comprehensive coverage of the healthcare system, healthcare delivery, and healthcare systems modeling. Written by leading industrial engineering authorities and a medical doctor specializing in healthcare delivery systems, this book provides a well-rounded resource for readers of a variety of backgrounds. Examples, case studies, and thoughtful learning activities are used to thoroughly explain the concepts presented, including healthcare systems, delivery, quantification, and design. You'll learn how to approach the healthcare industry as a complex system, and apply relevant design and engineering principles and processes to
advance improvements. Written with an eye toward practicality, this book is designed to maximize your understanding and help you quickly apply toward solutions for a variety of healthcare challenges. Healthcare systems engineering is a new and complex interdisciplinary field that has emerged to address the myriad challenges facing the healthcare industry in the wake of reform. This book functions as both an introduction and a reference, giving you the knowledge you need to move toward better healthcare delivery. Understand the healthcare delivery context Use appropriate statistical and quantitative models Improve existing systems and design new ones Apply systems engineering to a variety of healthcare contexts Healthcare systems engineering overlaps with industrial engineering, operations research, and management science, uniting the principles and practices of these fields together in pursuit of optimal healthcare operations. Although collaboration is focused on practitioners, professionals in information technology, policy and administration, public health, and law all play crucial roles in revamping health care systems. Healthcare Systems Engineering is a complete and authoritative reference for stakeholders in any field. With the increased emphasis on reducing medical errors in an emergency setting, this book will focus on patient safety within the emergency department, where preventable medical errors often occur. The
book will provide both an overview of patient safety within health care—the 'culture of safety,' importance of teamwork, organizational change—and specific guidelines on issues such as medication safety, procedural complications, and clinician fatigue, to ensure quality care in the ED. Special sections discuss ED design, medication safety, and awareness of the 'culture of safety.'

This issue of Emergency Medicine Clinics, guest edited by Drs. Lauren Nentwich and Jonathan Olshaker, focuses on Risk Management in Emergency Medicine. This is one of four issues each year selected by the series consulting editor, Dr. Amal Mattu. Articles in this issue include, but are not limited to: Surviving a Medical Malpractice Lawsuit, Communication and Documentation, Physician Well-Being, Emergency Department Operations I: EMS and Patient Arrival, Emergency Department Operations II: Patient Flow, Confidentiality & Capacity, Supervision of Resident Physicians & Advanced Practice Providers, Evaluation of the Psychiatric Patient, Physical and chemical restraints, High-Risk Pediatric Emergencies, The High-Risk Airway, High-Risk Chief Complaints I: Chest pain, High-Risk Chief Complaints II: Abdomen Pain and Extremity Injuries, High-Risk Chief Complaints III: Neurologic Emergencies, and Mitigating Clinical Risk through Simulation.

Advancements in technology regularly influence the
healthcare field and developing aspects on medical patient safety. Implementing electronic health records, decision support systems, and computerized physician order entry systems reduces risk in the potential for e-health to make errors leading to adverse events. E-Health Technologies and Improving Patient Safety: Exploring Organizational Factors presents an overview on information and communication technologies and addresses the impacts on the field of both patient safety and e-health. This book offers insightful perspectives and concentrated research on concepts related to these areas, as well as issues and current trends in patient safety in e-health.

In today's health care environment, having satisfied patients just isn't enough. You're now being judged by payers and compared to other providers and patient satisfaction is a big part of that evaluation. Improving Patient Satisfaction Now: How to Earn Patient and Payer Loyalty explains why understanding and meeting patient expectations is not only nice to know, it's necessary to know! It gives you action steps in all areas of the practice. Through anecdotes and real-life examples from practicing physicians, you'll learn how to develop higher patient satisfaction, more compliant patients, a more productive and committed staff, and practical techniques to increase patient satisfaction in this updated edition.
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. Organizations around the world are using Lean to redesign care and improve processes in a way that achieves and sustains meaningful results for...
patients, staff, physicians, and health systems. Lean Hospitals, Third Edition explains how to use the Lean methodology and mindsets to improve safety, quality, access, and morale while reducing costs, increasing capacity, and strengthening the long-term bottom line. This updated edition of a Shingo Research Award recipient begins with an overview of Lean methods. It explains how Lean practices can help reduce various frustrations for caregivers, prevent delays and harm for patients, and improve the long-term health of your organization. The second edition of this book presented new material on identifying waste, A3 problem solving, engaging employees in continuous improvement, and strategy deployment. This third edition adds new sections on structured Lean problem solving methods (including Toyota Kata), Lean Design, and other topics. Additional examples, case studies, and explanations are also included throughout the book. Mark Graban is also the co-author, with Joe Swartz, of the book Healthcare Kaizen: Engaging Frontline Staff in Sustainable Continuous Improvements, which is also a Shingo Research Award recipient. Mark and Joe also wrote The Executive’s Guide to Healthcare Kaizen.

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