Implementing Human Factors In Healthcare Chfg

Crossing the Quality ChasmJust CultureHealth IT and Patient SafetyCrisis Management in Anesthesiology E-BookHandbook of Human Factors and Ergonomics in Health Care and Patient Safety, Second EditionVignettes in Patient SafetyAdvances in Understanding Human PerformanceInternational Encyclopedia of Ergonomics and Human Factors, Second Edition - 3 Volume SetInformation and Communication Technologies in HealthcareTo Err Is HumanAdvances in Patient SafetyChange Management Strategies for an Effective EMR ImplementationAdvances in Human Factors and Ergonomics in HealthcareHealthcare RobotsApplied Human Factors in Medical Device DesignHealth Care Comes HomeResilient Health CareHuman Fatigue Risk ManagementImproving Diagnosis in Health CareHuman Factors in HealthcarePatient SafetyA Human Error Approach to Aviation Accident AnalysisAdvances in Safety Management and Human FactorsSafety at the Sharp EndHuman Factors MethodsHuman Factors in HealthcareHuman Factors Methods for DesignHuman Factors and Ergonomics of Prehospital Emergency CareResilient Health Care, Volume 3Human Factors in the Health Care SettingPatient Safety Tool KitHealth and Social Care Systems of the Future: Demographic Changes, Digital Age and Human FactorsPatient Safety and QualityImproving Healthcare Quality in Europe Characteristics, Effectiveness and Implementation of Different StrategiesImplementing Human Factors in healthcareProceedings of the 20th Congress of the International Ergonomics Association (IEA 2018)Human Factors Methods for Improving Performance in the Process IndustriesThe Human ContributionVignettes in Patient SafetyHuman Factors in Healthcare

Crossing the Quality Chasm

Health care is everywhere under tremendous pressure with regard to efficiency, safety, and economic viability - to say nothing of having to meet various political agendas - and has responded by eagerly adopting techniques that have been useful in other industries, such as quality management, lean production, and high reliability. This has on the whole been met with limited success because health care as a non-trivial and multifaceted system differs significantly from most traditional industries. In order to allow health care systems to perform as expected and required, it is necessary to have concepts and methods that are able to cope with this complexity. Resilience engineering provides that capacity because its focus is on a system's overall ability to sustain required operations under both expected and unexpected conditions rather than on individual features or qualities. Resilience engineering's unique approach emphasises the usefulness of performance variability, and that successes and failures have the same aetiology. This book contains contributions from acknowledged international experts in health care, organisational studies and patient safety, as well as resilience engineering. Whereas current safety approaches primarily aim to reduce or eliminate the number of things that go wrong, Resilient Health Care aims to increase and improve the number of things that go right. Just as the WHO argues that health is more than the absence of illness, so does Resilient Health Care argue that safety is more than the absence of risk and

accidents. This can be achieved by making use of the concrete experiences of resilience engineering, both conceptually (ways of thinking) and practically (ways of acting).

Just Culture

Increased concern for patient safety has put the issue at the top of the agenda of practitioners, hospitals, and even governments. The risks to patients are many and diverse, and the complexity of the healthcare system that delivers them is huge. Yet the discourse is often oversimplified and underdeveloped. Written from a scientific, human factors perspective, Patient Safety: A Human Factors Approach delineates a method that can enlighten and clarify this discourse as well as put us on a better path to correcting the issues. People often think, understandably, that safety lies mainly in the hands through which care ultimately flows to the patient—those who are closest to the patient, whose decisions can mean the difference between life and death, between health and morbidity. The human factors approach refuses to lay the responsibility for safety and risk solely at the feet of people at the sharp end. That is where we should intervene to make things safer, to tighten practice, to focus attention, to remind people to be careful, to impose rules and guidelines. The book defines an approach that looks relentlessly for sources of safety and risk everywhere in the system—the designs of devices; the teamwork and coordination between different practitioners; their communication across hierarchical and gender boundaries; the cognitive processes of individuals; the organization that surrounds, constrains, and empowers them; the economic and human resources offered; the technology available; the political landscape; and even the culture of the place. The breadth of the human factors approach is itself testimony to the realization that there are no easy answers or silver bullets for resolving the issues in patient safety. A user-friendly introduction to the approach, this book takes the complexity of health care seriously and doesn't over simplify the problem. It demonstrates what the approach does do, that is offer the substance and guidance to consider the issues in all their nuance and complexity.

Health IT and Patient Safety

Crisis Management in Anesthesiology E-Book

Human factors relates to the interaction of humans and technical systems. Human factors engineering analyzes tasks, considering the components in relation to a number of factors focusing particularly on human interactions and the interface between people working within systems. This book will help instructors teach the topic of human factors.

Handbook of Human Factors and Ergonomics in Health Care and Patient Safety, Second

Edition

This book discusses how digital technology and demographic changes are transforming the patient experience, services, provision, and planning of health and social care. It presents innovative ergonomics research and human factors approaches to improving safety, working conditions and quality of life for both patients and healthcare workers. Personalized medicine, mobile and wearable technologies, and the greater availability of health data are discussed, together with challenges and evidence-based practice. Based on the Healthcare Ergonomics and Patient Safety conference, HEPS2019, held on July 3-5, 2019, in Lisbon, Portugal, this book offers a timely resource for graduate students and researchers, as well as for healthcare professionals managing service provision, planners and designers for healthcare buildings and environments, and international healthcare organizations.

Vignettes in Patient Safety

Human Factors Methods for Improving Performance in the Process Industries provides guidance for managers and plant engineering staff on specific, practical techniques and tools for addressing forty different human factors issues impacting process safety. Human factors incidents can result in injury and death, damage to the environment, fines, and business losses due to ruined batches, off-spec products, unplanned shutdowns, and other adverse effects. Prevention of these incidents increases productivity and profits. Complete with examples, case histories, techniques, and implementation methodologies, Human Factors Methods for Improving Performance in the Process Industries helps managers and engineering staff design and execute an efficient program. Organized for topical reference, the book includes: An overview on implementing a human factors program at the corporate level or the plant level, covering the business value, developing a program to meet specific needs, improving existing systems, roles and responsibilities, measures of performance, and more Summaries of forty different human factors relating to process safety, with a description of the tools, a practical example with graphics and visual aids, and additional resources Information on addressing the OSHA Process Safety Management (PSM) requirement for conducting human factors reviews in process hazard analyses (PHAs) A CD-ROM with a color version of the book Note: CD-ROM/DVD and other supplementary materials are not included as part of eBook file.

Advances in Understanding Human Performance

Second in a series of publications from the Institute of Medicine's Quality of Health Care in America project Today's health care providers have more research findings and more technology available to them than ever before. Yet recent reports have raised serious doubts about the quality of health care in America. Crossing the Quality Chasm makes an urgent call for fundamental change to close the quality gap. This book recommends a sweeping redesign of the American health care

system and provides overarching principles for specific direction for policymakers, health care leaders, clinicians, regulators, purchasers, and others. In this comprehensive volume the committee offers: A set of performance expectations for the 21st century health care system. A set of 10 new rules to guide patient-clinician relationships. A suggested organizing framework to better align the incentives inherent in payment and accountability with improvements in quality. Key steps to promote evidence-based practice and strengthen clinical information systems. Analyzing health care organizations as complex systems, Crossing the Quality Chasm also documents the causes of the quality gap, identifies current practices that impede quality care, and explores how systems approaches can be used to implement change.

International Encyclopedia of Ergonomics and Human Factors, Second Edition - 3 Volume Set

This study deals with an underexplored area of the emerging technologies debate: robotics in the healthcare setting. The author explores the role of care and develops a value-sensitive ethical framework for the eventual employment of care robots. Highlighting the range of positive and negative aspects associated with the initiative to design and use care robots, it draws out essential content as a guide to future design both reinforcing this study's contemporary relevance, and giving weight to its prescriptions. The book speaks to, and is meant to be read by, a range of disciplines from science and engineering to philosophers and ethicists.

Information and Communication Technologies in Healthcare

This book provides an introduction to the field of human factors for individuals who are involved in the delivery and/or improvement of prehospital emergency care and describes opportunities to advance the practical application of human factors research in this critical domain. Relevant theories of human performance, including systems engineering principles, teamwork, training, and decision making are reviewed in light of the needs of current day prehospital emergency care. The primary focus is to expand awareness human factors and outlay the potential for novel and more effective solutions to the issues facing prehospital care and its practitioners.

To Err Is Human

v. 1. Research findings -- v. 2. Concepts and methodology -- v. 3. Implementation issues -- v. 4. Programs, tools and products.

Advances in Patient Safety

Over the past two decades, the healthcare community increasingly recognized the importance and the impact of medical errors on patient safety and clinical outcomes. Medical and surgical errors continue to contribute to unnecessary and potentially preventable morbidity and/or mortality, affecting both ambulatory and hospital settings. The spectrum of contributing variables-ranging from minor errors that subsequently escalate to poor communication to lapses in appropriate protocols and processes (just to name a few)-is extensive, and solutions are only recently being described. As such, there is a growing body of research and experiences that can help provide an organized framework-based upon the best practices and evidence-based medical principles-for hospitals and clinics to foster patient safety culture and to develop institutional patient safety champions. Based upon the tremendous interest in the first volume of our Vignettes in Patient Safety series, this second volume follows a similar vignette-based model. Each chapter outlines a realistic case scenario designed to closely approximate experiences and clinical patterns that medical and surgical practitioners can easily relate to. Vignette presentations are then followed by an evidence-based overview of pertinent patient safety literature, relevant clinical evidence, and the formulation of preventive strategies and potential solutions that may be applicable to each corresponding scenario. Throughout the Vignettes in Patient Safety cycle, emphasis is placed on the identification and remediation of team-based and organizational factors associated with patient safety events. The second volume of the Vignettes in Patient Safety begins with an overview of recent high-impact studies in the area of patient safety. Subsequent chapters discuss a broad range of topics, including retained surgical items, wrong site procedures, disruptive healthcare workers, interhospital transfers, risks of emergency department overcrowding, dangers of inadequate handoff communication, and the association between provider fatigue and medical errors. By outlining some of the current best practices, structured experiences, and evidence-based recommendations, the authors and editors hope to provide our readers with new and significant insights into making healthcare safer for patients around the world.

Change Management Strategies for an Effective EMR Implementation

This book builds on Human Factors in Healthcare Level One by delving deeper into the challenges of leadership, conflict resolution, and decision making that healthcare professionals currently face. It is written in an easy to understand style that helps the reader to readily assimilate abstract concepts. It includes a wealth of real-life examples of errors and patient safety issues drawn from the author's experience from overtwenty years in healthcare. This is a valuable resource for guiding healthcare professionals with the requirements of this relatively new discipline in the healthcare sector.

Advances in Human Factors and Ergonomics in Healthcare

This book discusses the latest advances in human factors and ergonomics, focusing on methods for improving quality, safety, efficiency, and effectiveness in patient care. By emphasizing the physical, cognitive and organizational aspects of

human factors and ergonomics applications, it reports on various perspectives, including those of clinicians, patients, health organizations and insurance providers. The book describes cutting-edge applications, highlighting the best practices of staff interactions with patients, as well as interactions with computers and medical devices. It also presents new findings related to improved organizational outcomes in healthcare settings, and approaches to modeling and analysis specifically targeting those work aspects unique to healthcare. Based on the AHFE 2016 International Conference on Human Factors and Ergonomics in Healthcare, held on July 27-31, 2016, in Walt Disney World®, Florida, USA, the book is intended as timely reference guide for both researchers involved in the design of healthcare systems and devices and healthcare professionals aiming at effective and safe health service delivery. Moreover, by providing a useful survey of cutting-edge methods for improving organizational outcomes in healthcare settings, the book also represents an inspiring reading for healthcare counselors and international health organizations.

Healthcare Robots

Applied Human Factors in Medical Device Design describes the contents of a human factors toolbox with in-depth descriptions of both empirical and analytical methodologies. The book begins with an overview of the design control process, integrating human factors as directed by AAMI TIR 59 and experienced practice. It then explains each method, describing why each method is important, its potential impact, when it's ideal to use, and related challenges. Also discussed are other barriers, such as communication breakdowns between users and design teams. This book is an excellent reference for professionals working in human factors, design, engineering, marketing and regulation. Focuses on meeting agency requirements as it pertains to the application of human factors in the medical device development process in both the US and the European Union (EU) Explains technology development and the application of human factors throughout the development process Covers FDA and MHRA regulations Includes case examples with each method

Applied Human Factors in Medical Device Design

Electronic medical record (EMR) deployments are not about technology. They are about equipping organizations to reach critical business objectives by providing people with technical capabilities that make new things possible and by engaging people in changing their behavior to effectively use the new capabilities to generate results. This book will show you how to create an environment for success in your organization to not only ensure that your EMR implementation effort is successful but that your organization builds change capacity and flexibility in the process. This new nimbleness will serve you well in our world of continual change.

Health Care Comes Home

This book presents the proceedings of the 20th Congress of the International Ergonomics Association (IEA 2018), held on August 26-30, 2018, in Florence, Italy. By highlighting the latest theories and models, as well as cutting-edge technologies and applications, and by combining findings from a range of disciplines including engineering, design, robotics, healthcare, management, computer science, human biology and behavioral science, it provides researchers and practitioners alike with a comprehensive, timely guide on human factors and ergonomics. It also offers an excellent source of innovative ideas to stimulate future discussions and developments aimed at applying knowledge and techniques to optimize system performance, while at the same time promoting the health, safety and wellbeing of individuals. The proceedings include papers from researchers and practitioners, scientists and physicians, institutional leaders, managers and policy makers that contribute to constructing the Human Factors and Ergonomics approach across a variety of methodologies, domains and productive sectors. This volume includes papers addressing Healthcare Ergonomics.

Resilient Health Care

The previous edition of the International Encyclopedia of Ergonomics and Human Factors made history as the first unified source of reliable information drawn from many realms of science and technology and created specifically with ergonomics professionals in mind. It was also a winner of the Best Reference Award 2002 from the Engineering Libraries Division, American Society of Engineering Education, USA, and the Outstanding Academic Title 2002 from Choice Magazine. Not content to rest on his laurels, human factors and ergonomics expert Professor Waldemar Karwowski has overhauled his standard-setting resource, incorporating coverage of tried and true methods, fundamental principles, and major paradigm shifts in philosophy, thought, and design. Demonstrating the truly interdisciplinary nature of this field, these changes make the second edition even more comprehensive, more informative, more, in a word, encyclopedic. Keeping the format popularized by the first edition, the new edition has been completely revised and updated. Divided into 13 sections and organized alphabetically within each section, the entries provide a clear and simple outline of the topics as well as precise and practical information. The book reviews applications, tools, and innovative concepts related to ergonomic research. Technical terms are defined (where possible) within entries as well as in a glossary. Students and professionals will find this format invaluable, whether they have ergonomics, engineering, computing, or psychology backgrounds. Experts and researchers will also find it an excellent source of information on areas beyond the range of their direct interests.

Human Fatigue Risk Management

Human error is implicated in nearly all aviation accidents, yet most investigation and prevention programs are not designed around any theoretical framework of human error. Appropriate for all levels of expertise, the book provides the knowledge and tools required to conduct a human error analysis of accidents, regardless of operational setting (i.e. military,

commercial, or general aviation). The book contains a complete description of the Human Factors Analysis and Classification System (HFACS), which incorporates James Reason's model of latent and active failures as a foundation. Widely disseminated among military and civilian organizations, HFACS encompasses all aspects of human error, including the conditions of operators and elements of supervisory and organizational failure. It attracts a very broad readership. Specifically, the book serves as the main textbook for a course in aviation accident investigation taught by one of the authors at the University of Illinois. This book will also be used in courses designed for military safety officers and flight surgeons in the U.S. Navy, Army and the Canadian Defense Force, who currently utilize the HFACS system during aviation accident investigations. Additionally, the book has been incorporated into the popular workshop on accident analysis and prevention provided by the authors at several professional conferences world-wide. The book is also targeted for students attending Embry-Riddle Aeronautical University which has satellite campuses throughout the world and offers a course in human factors accident investigation for many of its majors. In addition, the book will be incorporated into courses offered by Transportation Safety International and the Southern California Safety Institute. Finally, this book serves as an excellent reference guide for many safety professionals and investigators already in the field.

Improving Diagnosis in Health Care

Human Factors in Healthcare educates the reader about what human factors actually entail, providing an insight into the processes of self-awareness, communication, leadership in a crisis, decision making, co-ordination and situational awareness, as well as how they currently function in these areas and ways they might improve.

Human Factors in Healthcare

This second edition of Human Factors Methods: A Practical Guide for Engineering and Design now presents 107 design and evaluation methods including numerous refinements to those that featured in the original. The book acts as an ergonomics methods manual, aiding both students and practitioners. Offering a 'how-to' text on a substantial range of ergonomics methods, the eleven sections represent the different categories of ergonomics methods and techniques that can be used in the evaluation and design process.

Patient Safety

The fully updated Crisis Management in Anesthesiology continues to provide updated insights on the latest theories, principles, and practices in anesthesiology. From anesthesiologists and nurse anesthetists to emergency physicians and residents, this medical reference book will effectively prepare you to handle any critical incident during anesthesia. Identify

and respond to a broad range of life-threatening situations with the updated Catalog of Critical Incidents, which outlines what may happen during surgery and details the steps necessary to respond to and resolve the crisis. React quickly to a range of potential threats with an added emphasis on simulation of managing critical incidents. Useful review for all anesthesia professionals of the core knowledge of diagnosis and management of many critical events. Explore new topics in the ever-expanding anesthesia practice environment with a detailed chapter on debriefing. Consult this title on your favorite e-reader, conduct rapid searches, and adjust font sizes for optimal readability.

A Human Error Approach to Aviation Accident Analysis

This book is the 3rd volume in the Resilient Health Care series. Resilient health care is a product of both the policy and managerial efforts to organize, fund and improve services, and the clinical care which is delivered directly to patients. This volume continues the lines of thought in the first two books. Where the first volume provided the rationale and basic concepts of RHC and the second teased out the everyday clinical activities which adjust and vary to create safe care, this book will look more closely at the connections between the sharp and blunt ends. Doing so will break new ground, since the systematic study in patient safety to date with few exceptions has been limited.

Advances in Safety Management and Human Factors

The Patient safety tool kit describes the practical steps and actions needed to build a comprehensive patient safety improvement programme in hospitals and other health facilities. It is intended to provide practical guidance to health care professionals in implementing such programmes outlining a systematic approach to identifying the what and the how of patient safety. The tool kit is a component of the WHO patient safety friendly hospital initiative and complements the Patient safety assessment manual also published by WHO Regional Office for the Eastern Mediterranean.

Safety at the Sharp End

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

Human Factors Methods

While many organizations see the value of creating a just culture they struggle when it comes to developing it. In this Second Edition, Dekker expands his views, additionally tackling the key issue of how justice is created inside organizations. Dekker also introduces new material on ethics and on caring for the' second victim' (the professional at the centre of the incident). Consequently, we have a natural evolution of the author's ideas.

Human Factors in Healthcare

Over the past decade it has been increasingly recognized that medical errors constitute an important determinant of patient safety, quality of care, and clinical outcomes. Such errors are both directly and indirectly responsible for unnecessary and potentially preventable morbidity and/or mortality across our healthcare institutions. The spectrum of contributing variables or "root causes" - ranging from minor errors that escalate, poor teamwork and/or communication, and lapses in appropriate protocols and processes (just to name a few) - is both extensive and heterogeneous. Moreover, effective solutions are few, and many have only recently been described. As our healthcare systems mature and their focus on patient safety solidifies, a growing body of research and experiences emerges to help provide an organized framework

for continuous process improvement. Such a paradigm - based on best practices and evidence-based medical principles-sets the stage for hardwiring "the right things to do" into our institutional patient care matrix. Based on the tremendous interest in the first two volumes of The Vignettes in Patient Safety series, this third volume follows a similar model of case-based learning. Our goal is to share clinically relevant, practical knowledge that approximates experiences that busy practicing clinicians can relate to. Then, by using evidence-based approaches to present contemporary literature and potential contributing factors and solutions to various commonly encountered clinical patient safety scenarios, we hope to give our readers the tools to help prevent similar occurrences in the future. In outlining some of the best practices and structured experiences, and highlighting the scope of the problem, the authors and editors can hopefully lend some insights into how we can make healthcare experiences for our patients safer.

Human Factors Methods for Design

Human Fatigue Risk Management: Improving Safety in the Chemical Processing Industry teaches users everything they need to know to mitigate the risk of fatigued workers in a plant or refinery. As human fatigue has been directly linked to several major disasters, the book explores the API RP 755 guidelines that were released to reduce these types of incidents. This book will help users follow API RP 755 and/or implement a fatigue risk management system in their organization. Susan Murray, a recognized expert in the field of sleep deprivation and its relation to high hazard industries, has written this book to be useful for HSE managers, plant and project managers, occupational safety professionals, and engineers and managers in the chemical processing industry. As scheduling of shifts is an important factor in reducing fatigue and accident rates, users will learn the benefits of more frequent staff rotation and how to implement an ideal scheduling plan. The book goes beyond API RP 755, offering more detailed understanding of why certain measures for managing fatigue are beneficial to a company, including examples of how theory can be put into practice. It is a simple, digestible book for managers who are interested in addressing human factor issues at their workplace in order to raise safety standards. Covers sleep, sleep disorders, and the consequences of fatigue as related to high-hazard industries Helps improve safety standards at the plant level Provides information on how to comply with API RP 755 and related OSHA 29CFR1910 articles Relates fatigue and human performance to accidents, helping readers make a case for implementing a human fatigue risk management policy, which, in turn, prevents loss of property and life

Human Factors and Ergonomics of Prehospital Emergency Care

Have you ever experienced the burden of an adverse event or a near-miss in healthcare and wished there was a way to mitigate it? This book walks you through a classic adverse event as a case study and shows you how. It is a practical guide to continuously improving your healthcare environment, processes, tools, and ultimate outcomes, through the discipline of

human factors. Using this book, you as a healthcare professional can improve patient safety and quality of care. Adverse events are a major concern in healthcare today. As the complexity of healthcare increases-with technological advances and information overload-the field of human factors offers practical approaches to understand the situation, mitigate risk, and improve outcomes. The first part of this book presents a human factors conceptual framework, and the second part offers a systematic, pragmatic approach. Both the framework and the approach are employed to analyze and understand healthcare situations, both proactively-for constant improvement-and reactively-learning from adverse events. This book guides healthcare professionals through the process of mapping the environmental and human factors; assessing them in relation to the tasks each person performs; recognizing how gaps in the fit between human capabilities and the demands of the task in the environment have a ripple effect that increases risk; and drawing conclusions about what types of changes facilitate improvement and mitigate risk, thereby contributing to improved healthcare outcomes.

Resilient Health Care, Volume 3

The first edition of Handbook of Human Factors and Ergonomics in Health Care and Patient Safety took the medical and ergonomics communities by storm with in-depth coverage of human factors and ergonomics research, concepts, theories, models, methods, and interventions and how they can be applied in health care. Other books focus on particular human factors and ergonomics issues such as human error or design of medical devices or a specific application such as emergency medicine. This book draws on both areas to provide a compendium of human factors and ergonomics issues relevant to health care and patient safety. The second edition takes a more practical approach with coverage of methods, interventions, and applications and a greater range of domains such as medication safety, surgery, anesthesia, and infection prevention. New topics include: work schedules error recovery telemedicine workflow analysis simulation health information technology development and design patient safety management Reflecting developments and advances in the five years since the first edition, the book explores medical technology and telemedicine and puts a special emphasis on the contributions of human factors and ergonomics to the improvement of patient safety and quality of care. In order to take patient safety to the next level, collaboration between human factors professionals and health care providers must occur. This book brings both groups closer to achieving that goal.

Human Factors in the Health Care Setting

Getting the right diagnosis is a key aspect of health care - it provides an explanation of a patient's health problem and informs subsequent health care decisions. The diagnostic process is a complex, collaborative activity that involves clinical reasoning and information gathering to determine a patient's health problem. According to Improving Diagnosis in Health Care, diagnostic errors-inaccurate or delayed diagnoses-persist throughout all settings of care and continue to harm an

unacceptable number of patients. It is likely that most people will experience at least one diagnostic error in their lifetime, sometimes with devastating consequences. Diagnostic errors may cause harm to patients by preventing or delaying appropriate treatment, providing unnecessary or harmful treatment, or resulting in psychological or financial repercussions. The committee concluded that improving the diagnostic process is not only possible, but also represents a moral, professional, and public health imperative. Improving Diagnosis in Health Care a continuation of the landmark Institute of Medicine reports To Err Is Human (2000) and Crossing the Quality Chasm (2001) finds that diagnosis-and, in particular, the occurrence of diagnostic errorsâ€"has been largely unappreciated in efforts to improve the quality and safety of health care. Without a dedicated focus on improving diagnosis, diagnostic errors will likely worsen as the delivery of health care and the diagnostic process continue to increase in complexity. Just as the diagnostic process is a collaborative activity, improving diagnosis will require collaboration and a widespread commitment to change among health care professionals, health care organizations, patients and their families, researchers, and policy makers. The recommendations of Improving Diagnosis in Health Care contribute to the growing momentum for change in this crucial area of health care quality and safety.

Patient Safety Tool Kit

As the population ages and healthcare costs continue to soar, the focus of the nation and the healthcare industry turns to reducing costs and making the delivery process more efficient. Demonstrating how improvements in information systems can lead to improved patient care, Information and Communication Technologies in Healthcare explains how to cr

Health and Social Care Systems of the Future: Demographic Changes, Digital Age and Human Factors

Many 21st century operations are characterised by teams of workers dealing with significant risks and complex technology, in competitive, commercially-driven environments. Informed managers in such sectors have realised the necessity of understanding the human dimension to their operations if they hope to improve production and safety performance. While organisational safety culture is a key determinant of workplace safety, it is also essential to focus on the non-technical skills of the system operators based at the 'sharp end' of the organisation. These skills are the cognitive and social skills required for efficient and safe operations, often termed Crew Resource Management (CRM) skills. In industries such as civil aviation, it has long been appreciated that the majority of accidents could have been prevented if better non-technical skills had been demonstrated by personnel operating and maintaining the system. As a result, the aviation industry has pioneered the development of CRM training. Many other organisations are now introducing non-technical skills training, most notably within the healthcare sector. Safety at the Sharp End is a general guide to the theory and practice of non-technical skills for

safety. It covers the identification, training and evaluation of non-technical skills and has been written for use by individuals who are studying or training these skills on CRM and other safety or human factors courses. The material is also suitable for undergraduate and post-experience students studying human factors or industrial safety programmes.

Patient Safety and Quality

In the United States, health care devices, technologies, and practices are rapidly moving into the home. The factors driving this migration include the costs of health care, the growing numbers of older adults, the increasing prevalence of chronic conditions and diseases and improved survival rates for people with those conditions and diseases, and a wide range of technological innovations. The health care that results varies considerably in its safety, effectiveness, and efficiency, as well as in its quality and cost. Health Care Comes Home reviews the state of current knowledge and practice about many aspects of health care in residential settings and explores the short- and long-term effects of emerging trends and technologies. By evaluating existing systems, the book identifies design problems and imbalances between technological system demands and the capabilities of users. Health Care Comes Home recommends critical steps to improve health care in the home. The book's recommendations cover the regulation of health care technologies, proper training and preparation for people who provide in-home care, and how existing housing can be modified and new accessible housing can be better designed for residential health care. The book also identifies knowledge gaps in the field and how these can be addressed through research and development initiatives. Health Care Comes Home lays the foundation for the integration of human health factors with the design and implementation of home health care devices, technologies, and practices. The book describes ways in which the Agency for Healthcare Research and Quality (AHRQ), the U.S. Food and Drug Administration (FDA), and federal housing agencies can collaborate to improve the quality of health care at home. It is also a valuable resource for residential health care providers and caregivers.

Improving Healthcare Quality in Europe Characteristics, Effectiveness and Implementation of Different Strategies

An easy-to-use, in-depth manual, Human Factors Methods for Design supplies the how-tos for approaching and analyzing design problems and provides guidance for their solution. It draws together the basics of human behavior and physiology to provide a context for readers who are new to the field. The author brings in problem analysis, including test and evaluation methods and simple experimentation and recognizes the importance of cost-effectiveness. Finally, he emphasizes the need for good communication to get the new product understood and accepted. The author draws from his corporate experience as a research and development manager and his consulting practice in human factors and design.

Implementing Human Factors in healthcare

Combining emerging concepts, theories, and applications of human factors knowledge, this volume focuses on discovery and understanding of human performance issues in complex systems, including recent advances in neural basis of human behavior at work (i.e. neuroergonomics), training, and universal design. The book is organized into ten sections that focus on the following subject matters: I: Neuroergonomics: Workload Assessment II: Models and Measurement in Neuroergonomics III: Neuroergonomics and Human Performance IV: Neuroergonomics and Training Issues V: Trainees: Designing for Those in Training VI: Military Human Factors: Designing for Those in the Armed Forces VII: New Programs/New Places: Designing for Those Unfamiliar with Human Factors VIII: Universal Design: Designing to Include Everyone IX: Designing for People with Disabilities X: Children and Elderly: Designing for Those of Different Ages Sections I through IV of this book focus on neuroscience of human performance in complex systems, with emphasis on the assessment and modeling of cognitive workload, fatigue, and training effectiveness. Sections V through X concentrate on applying human factors to special populations, with the caveat that the design information may not generalize to (or be of interest to) other populations. This broadens the conventional definition which limits special populations to those who have limitations in their functional abilities, i.e. those with chronic disabilities due to illness, injury, or aging. Thus, special populations can incorporate certain investigations and designs focused on military, students, or even developing countries and those naïve to the field of human factors, as well as those who are affected by disabilities and aging (both young and old). Many chapters of this book focus on analysis, design, and evaluation of challenges affecting students, trainees, members of the military, persons with disabilities, and universal design. In general, the chapters are organized to move from a more general, to a more specialized application. For example, the subtopics for those with disabilities include designing websites, workstations, housing, entrepreneur training, communication strategies, products, environments, public transportation systems, and communities. This book is of special value to a large variety of professionals, researchers and students in the broad field of human performance who are interested in neuroergonomics, training effectiveness, and universal design and operation of products and processes, as well as management of work systems in contemporary society. We hope this book is informative, but even more - that it is thought provoking. We hope it inspires, leading the reader to contemplate other questions, applications, and potential solutions in creating designs that improve function, efficiency, and ease-of-use for all. Seven other titles in the Advances in Human Factors and Ergonomics Series are: Advances in Human Factors and Ergonomics in Healthcare Advances in Applied Digital Human Modeling Advances in Cross-Cultural Decision Making Advances in Cognitive Ergonomics Advances in Occupational, Social and Organizational Ergonomics Advances in Human Factors, Ergonomics and Safety in Manufacturing and Service Industries Advances in Ergonomics Modeling & Usability Evaluation

Proceedings of the 20th Congress of the International Ergonomics Association (IEA 2018)

The Human Contribution is vital reading for all professionals in high-consequence environments and for managers of any complex system. The book draws its illustrative material from a wide variety of hazardous domains, with the emphasis on healthcare reflecting the author's focus on patient safety over the last decade. All students of human factors - however seasoned - will also find it an invaluable and thought-provoking read.

Human Factors Methods for Improving Performance in the Process Industries

"Nurses play a vital role in improving the safety and quality of patient car -- not only in the hospital or ambulatory treatment facility, but also of community-based care and the care performed by family members. Nurses need know what proven techniques and interventions they can use to enhance patient outcomes. To address this need, the Agency for Healthcare Research and Quality (AHRQ), with additional funding from the Robert Wood Johnson Foundation, has prepared this comprehensive, 1,400-page, handbook for nurses on patient safety and quality -- Patient Safety and Quality: An Evidence-Based Handbook for Nurses. (AHRQ Publication No. 08-0043)."--Online AHRQ blurb, http://www.ahrq.gov/qual/nurseshdbk.

The Human Contribution

This book discusses the latest findings on ensuring employees' safety, health, and welfare at work. It combines a range of disciplines – e.g. work physiology, health informatics, safety engineering, workplace design, injury prevention, and occupational psychology – and presents new strategies for safety management, including accident prevention methods such as performance testing and participatory ergonomics. The book, which is based on the AHFE 2019 International Conference on Safety Management and Human Factors, held on July 24-28, 2019, Washington D.C., USA, provides readers, including decision makers, professional ergonomists and program managers in government and public authorities, with a timely snapshot of the state of the art in the field of safety, health, and welfare management. It also addresses agencies such as the Occupational Safety and Health Administration (OSHA) and the National Institute for Occupational Safety and Health (NIOSH), as well as other professionals dealing with occupational safety and health.

Vignettes in Patient Safety

IOM's 1999 landmark study To Err is Human estimated that between 44,000 and 98,000 lives are lost every year due to medical errors. This call to action has led to a number of efforts to reduce errors and provide safe and effective health care. Information technology (IT) has been identified as a way to enhance the safety and effectiveness of care. In an effort to catalyze its implementation, the U.S. government has invested billions of dollars toward the development and meaningful

use of effective health IT. Designed and properly applied, health IT can be a positive transformative force for delivering safe health care, particularly with computerized prescribing and medication safety. However, if it is designed and applied inappropriately, health IT can add an additional layer of complexity to the already complex delivery of health care. Poorly designed IT can introduce risks that may lead to unsafe conditions, serious injury, or even death. Poor human-computer interactions could result in wrong dosing decisions and wrong diagnoses. Safe implementation of health IT is a complex, dynamic process that requires a shared responsibility between vendors and health care organizations. Health IT and Patient Safety makes recommendations for developing a framework for patient safety and health IT. This book focuses on finding ways to mitigate the risks of health IT-assisted care and identifies areas of concern so that the nation is in a better position to realize the potential benefits of health IT. Health IT and Patient Safety is both comprehensive and specific in terms of recommended options and opportunities for public and private interventions that may improve the safety of care that incorporates the use of health IT. This book will be of interest to the health IT industry, the federal government, healthcare providers and other users of health IT, and patient advocacy groups.

Human Factors in Healthcare

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.

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