National Healthcare Facilities And Engineering Week 2022

BRANSON MATHEWS

Sound & Vibration 2.0 National Academies Press
This book is a practical guide for medical professionals with little or no business experience who are interested in establishing health care facilities in developing countries. It is an introduction to the kinds of basic research and planning required to identify viable solutions and reduce the risk of failure.
Clinical Engineering Springer
The Social Security Administration (SSA) administers two programs that provide benefits based on disability: the Social Security Disability Insurance (SSDI) program and the Supplemental Security Income (SSI) program. This report analyzes health care utilizations as they relate to impairment severity and SSA's definition of disability. Health Care Utilization as a Proxy in Disability Determination identifies types of utilizations that might be good proxies for "listing-level" severity; that is, what represents an impairment, or combination of impairments, that are severe enough to prevent a person from doing any gainful activity, regardless of age, education, or work experience.
Engaging the Private-Sector Health Care System in Building Capacity to Respond to Threats to the Public's Health and National Security National Academies Press
This document was commissioned by the Facility Guidelines Institute as the sole reference for acoustics in health care facilities. It was written by the Health Care Acoustics Working Group, a permanent committee of the Acoustics Research Council (ARC), comprised of members of leading professional societies in acoustics, noise control engineering, acoustical consulting and related professions. ARC organized the health care Working Group in 2004-5 drawing its members from ten constituencies that range from medicine to law, public policy, architecture, design and engineering in order to provide constructive, guidance on sound and vibration based on research and best practices. Sound and Vibration 2.0 has been adopted as the sole reference standard for acoustics in health care facilities by: the 2010 FGI/ASHE "Guidelines for the Design and Construction of Healthcare Facilities" (used in 60 countries); the US Green Building Council's "LEED for Healthcare" (used in 87 countries); The Green Guide for Health Care V2.2; and the International Code Council's IGCC (2011). Sound and vibration are topics of increasing prominence in the design, construction, and operation of healthcare facilities. A satisfactory acoustical environment in a healthcare facility is now viewed as an essential component of effective healthcare. Sensible acoustical and privacy planning in the early design stages of a healthcare facility project can be solved effectively and affordably with a few strokes of the designer's pencil. The recommended minimum design requirements presented in this work are therefore intended to aid designers in achieving satisfactory acoustical and privacy environments in healthcare facilities. This handbook includes comprehensive, practical, and measureable guidelines for all aspects of acoustics in the design, construction, and evaluation of all types of healthcare facilities, including large general hospitals, specialized patient care facilities, and ambulatory patient care facilities.
Health Professions Education Springer Science & Business Media
Clinical Systems Engineering: New Challenges for Future Healthcare covers the critical issues relating to the risk management and design of new technologies in the healthcare sector. It is a comprehensive summary of the advances in clinical engineering over the past 40 years, presenting guidance on compliance and safety for hospitals and engineering teams. This contributed book contains chapters from international experts, who provide their solutions, experiences, and the successful methodologies they have applied to solve common problems in the area of healthcare technology. Topics include compliance with the European Directive on Medical Devices 93/42/EEC, European Norms EN 60601-1-6, EN 62366, and the American Standards ANSI/AAMI HE75: 2009. Content coverage includes decision support systems, clinical complex systems, and human factor engineering. Examples are fully supported with case studies, and global perspective is maintained throughout. This book is ideal for clinical engineers, biomedical engineers, hospital administrators and medical technology manufacturers. Presents clinical systems engineering in a way that will help users answer many questions relating to clinical systems engineering and its relationship to future healthcare needs Explains how to assess new healthcare technologies and what are the most critical issues in their management Provides information on how to carry out risk analysis for new technological systems or medical software Contains tactics on how to improve the quality and usability of medical devices
Occupational Health and Safety in the Care and Use of Research Animals National Academies Press
Mental, neurological, and substance use (MNS) disorders have a substantial impact on global health and well-being. Disorders such as depression, alcohol abuse, and schizophrenia constitute about 13 percent of the total burden of disease. Worldwide, MNS disorders are the leading cause of disability, and the 10th leading cause of death. Despite this high burden, there is a significant shortage of resources available to prevent, diagnose, and treat MNS disorders. Approximately four out of five people with serious MNS disorders living in low- and middle-income countries do not receive needed health services. This treatment gap is particularly high in Sub-Saharan Africa (SSA). Challenges to MNS care in SSA countries include a lack of trained mental health professionals, few mental health facilities, and low prioritization for MNS disorders in budget allocations. African countries, on average, have one psychiatrist for every 2 million people, whereas European countries have one psychiatrist per 12,000 people. Expanding on previous efforts to address the development and improvement of sustainable mental health systems in SSA, the Institute of Medicine convened this 2015 workshop series, bringing together key stakeholders to examine country-specific opportunities to improve the health care infrastructure in order to better prevent, diagnose, and treat MNS disorders. Providing Sustainable Mental and Neurological Health Care in Ghana and Kenya summarizes the presentations and discussions from these workshops.
Guidance for Establishing Crisis Standards of Care for Use in Disaster Situations National Academies Press
The National Science Foundation funded a synthesis study on the status, contributions, and future direction of discipline-based education research (DBER) in physics, biological sciences, geosciences, and chemistry. DBER combines knowledge of teaching and learning with deep knowledge of discipline-specific science content. It describes the discipline-specific difficulties learners face and the specialized intellectual and instructional resources that can facilitate student understanding. Discipline-Based Education Research is based on a 30-month study built on two workshops held in 2008 to explore evidence on promising practices in undergraduate science, technology, engineering, and mathematics (STEM) education. This book asks questions that are essential to advancing DBER and broadening its impact on undergraduate science teaching and learning. The book provides empirical research on undergraduate teaching and learning in the sciences, explores the extent to which this research currently influences undergraduate instruction, and identifies the intellectual and material resources required to further develop DBER. Discipline-Based Education Research provides guidance for future DBER research. In addition, the findings and recommendations of this report may invite, if not assist, post-secondary institutions to increase interest and research activity in DBER and improve its quality and usefulness across all natural science disciples, as well as guide instruction and assessment across natural science courses to improve student learning. The book brings greater focus to issues of student attrition in the natural sciences that are related to the quality of instruction. Discipline-Based Education Research will be of interest to educators, policy makers, researchers, scholars, decision makers in universities, government agencies, curriculum developers, research sponsors, and education advocacy groups.
Health Efficiency Taylor & Francis
Green Healthcare Institutions : Health, Environment, and Economics, Workshop Summary is based

on the ninth workshop in a series of workshops sponsored by the Roundtable on Environmental Health Sciences, Research, and Medicine since the roundtable began meeting in 1998. When choosing workshops and activities, the roundtable looks for areas of mutual concern and also areas that need further research to develop a strong environmental science background. This workshop focused on the environmental and health impacts related to the design, construction, and operations of healthcare facilities, which are part of one of the largest service industries in the United States. Healthcare institutions are major employers with a considerable role in the community, and it is important to analyze this significant industry. The environment of healthcare facilities is unique; it has multiple stakeholders on both sides, as the givers and the receivers of care. In order to provide optimal care, more research is needed to determine the impacts of the built environment on human health. The scientific evidence for embarking on a green building agenda is not complete, and at present, scientists have limited information. Green Healthcare Institutions : Health, Environment, and Economics, Workshop Summary captures the discussions and presentations by the speakers and participants; they identified the areas in which additional research is needed, the processes by which change can occur, and the gaps in knowledge.

Engineering Solutions to America's Healthcare Challenges National Academies Press

The National Academies of Sciences, Engineering, and Medicine was tasked by the Veterans Health Administration (VHA) to prepare a comprehensive resource planning and staffing methodology guidebook for VHA Facility Management (Engineering) Programs. The resource and staffing methodology must take into account all significant parameters and variables involved in the VHA Engineering Programs. The methodology should yield customized outputs based on site-specific input data, to enable specification of the optimal budget and staffing levels for each site. Currently, the VHA does not utilize a staffing model for defining its facilities workforce. Each medical center defines its required facilities staffing. This interim report focuses on the types, availability, usage, and limitations of models in the staffing processes.

Crossing the Global Quality Chasm Elsevier

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.

Facilities Engineering and Management Handbook Academic Press

Clinical Engineering Handbook, Second Edition, covers modern clinical engineering topics, giving experienced professionals the necessary skills and knowledge for this fast-evolving field. Featuring insights from leading international experts, this book presents traditional practices, such as healthcare technology management, medical device service, and technology application. In addition, readers will find valuable information on the newest research and groundbreaking developments in clinical engineering, such as health technology assessment, disaster preparedness, decision support systems, mobile medicine, and prospects and guidelines on the future of clinical engineering. As the biomedical engineering field expands throughout the world, clinical engineers play an increasingly important role as translators between the medical, engineering and business professions. In addition, they influence procedures and policies at research facilities, universities, and in private and government agencies. This book explores their current and continuing reach and its importance. Presents a definitive, comprehensive, and up-to-date resource on clinical engineering Written by worldwide experts with ties to IFMBE, IUPESM, Global CE Advisory Board, IEEE, ACCE, and more Includes coverage of new topics, such as Health Technology Assessment (HTA), Decision Support Systems (DSS), Mobile Apps, Success Stories in Clinical Engineering, and Human Factors Engineering

Reusable Elastomeric Respirators in Health Care Springer Science & Business Media

The planning and design of healthcare facilities has evolved over the previous decades from "function follows design" to "design follows function." Facilities stressed the functions of healthcare providers but patient experience was not fully considered. The design process has now crucially evolved, and currently, the impression a hospital conveys to its patients and community is the primary concern. The facilities must be welcoming, comfortable, and exude a commitment to patient well-being. Rapid changes and burgeoning technologies are now major considerations in facility design. Without flexibility, hospitals face quicker obsolescence if designs are not forward-thinking. Planning and Designing Healthcare Facilities: A Lean, Innovative, and Evidence-Based Approach explores recent developments in hospital design. Medical facilities have been adapted to the requirements of clinical functions. Recently, the needs of patients and clinical pathways have been recognized. With the patient at the center of the process, the flow of tasks becomes the guiding principle as hospital design must employ evidence-based thinking, and process management methods such as Lean become central. The authors explain new concepts to reduce healthcare delivery cost, but keep quality the primary consideration. Concepts such as sustainability (i.e., Green Hospitals) and the use of new tools and technologies, such as information and communication technology (ICT), Lean, and evidence-based planning and innovations are fully explained.

Planning and Designing Healthcare Facilities McGraw-Hill Professional Publishing

Disasters tend to cross political, jurisdictional, functional, and geographic boundaries. As a result, disasters often require responses from multiple levels of government and multiple organizations in the public and private sectors. This means that public and private organizations that normally operate independently must work together to mount an effective disaster response. To identify and understand approaches to aligning health care system incentives with the American public's need for a health care system that is prepared to manage acutely ill and injured patients during a disaster, public health emergency, or other mass casualty event, the National Academies of Sciences, Engineering, and Medicine hosted a 2-day public workshop on March 20 and 21, 2018. This publication summarizes the presentations and discussions from the workshop.

National Healthcare Facilities and Engineering Week in Arkansas Proclamation, October 11, 2012 Academic Press

Much has been written about the care of research animals. Yet little guidance has appeared on protecting the health and safety of the people who care for or use these animals. This book, an implementation handbook and companion to Guide For the Care and Use of Laboratory Animals, identifies principles for building a program and discusses the accountability of institutional leaders, managers, and employees for a program's success. It provides a detailed description of risksâ€"physical and chemical hazards, allergens and zoonoses, and hazards from experimentsâ€"which will serve as a continuing reference for the laboratory. The book offers specific recommendations for controlling risk through administrative procedures, facility design, engineering controls, and periodic evaluations. The volume focuses on the worker, with detailed discussions of work practices, the use of personal protective gear, and the development of an emergency response plan. This handbook will be invaluable to administrators, researchers, and employees in any animal research facility. It will also be of interest to personnel in zoos, animal shelters, and veterinary facilities.

HVAC Design Manual for Hospitals and Clinics Routledge

Much has been written about the care of research animals. Yet little guidance has appeared on protecting the health and safety of the people who care for or use these animals. This book, an implementation handbook and companion to Guide For the Care and Use of Laboratory Animals, identifies principles for building a program and discusses the accountability of institutional leaders, managers, and employees for a program's success. It provides a detailed description of risksâ€"physical and chemical hazards, allergens and zoonoses, and hazards from experimentsâ€"which will serve as a continuing reference for the laboratory. The book offers specific recommendations for controlling risk through administrative procedures, facility design, engineering controls, and periodic evaluations. The volume focuses on the worker, with detailed discussions of work practices, the use of personal protective gear, and the development of an emergency response plan. This handbook will be invaluable to administrators, researchers, and employees in any animal research facility. It will also be of interest to personnel in zoos, animal shelters, and veterinary facilities.

Clinical Engineering Handbook National Academies Press

This book features comprehensive, practical, and measureable guidelines for all aspects of acoustics in the design, construction, and evaluation of all types of healthcare facilities, including large general hospitals and specialized patient care facilities.

Establishing Private Health Care Facilities in Developing Countries National Academies Press

The US healthcare system has many excellent components; strong scientific input, extraordinary technology for diagnosis and treatment, dedicated staff and top-class facilities among them. But the system has evolved haphazardly over time and although it has not failed entirely, the authors argue that like any system where attention, is paid to individual components at the expense of the system as a whole, it can never hope to succeed. Above all, they point out that the US system does not provide high value healthcare; it has the highest costs in the world and yet many other countries have lower infant mortality rates and better life expectancy. --

Sound & Vibration 2.0 National Academies Press

Engineering Solutions to America’s Healthcare Challenges covers the technologies, systems, and processes that are emerging in hospitals, clinics, community centers, universities, and the White House to repair healthcare in the United States. Focusing on the importance of individuals being proactive about their own state of health, it presents a systems approach to changing the way healthcare professionals do business and take care of their patients. Written by a leading government and private sector consultant with more than a decade of experience as an industrial engineer, the book features interviews with leading industry experts, both domestic and international. Describing how industrial engineering practices are shaping healthcare, it explains why systems thinking must be the foundation for every aspect of healthcare. The book presents proven Lean and Six Sigma tools that can help any healthcare organization begin making operational improvements that result in a better quality of care for patients—all while reducing and even eliminating the waste of time, money, and human resources. These solutions include implementing Six Sigma in emergency rooms, 5S in accounting for medical inventory, using Theory of Constraints to form a plan for shortening the length of stay in hospitals, how informatics are used to aggregate and benchmark sensitive data, and design of experiments to recruit and retain the best healthcare talent. The book illustrates the most common factors involved with successful Six Sigma projects in healthcare organizations and considers the implications of a rapidly growing medical tourism industry. It addresses the role of insurance on healthcare improvement and also previews some of the most fascinating technological advances currently in development. It also offers examples and analysis of The Institute of Medicine's six aims for healthcare: safety, effectiveness, efficiency, timeliness, family-centered focus, and equity.

Recommended Practice National Academies Press

National Healthcare Facilities and Engineering Week in Arkansas Proclamation, October 11, 2012Facilities Staffing Requirements for the Veterans Health Administrationâ¬"Resourcing, Workforce Modeling, and StaffingNational Academies Press

Decarcerating Correctional Facilities during COVID-19 National Academies Press

In January 2019, the National Academies of Sciences, Engineering, and Medicine convened the 2-day Workshop on Resourcing, Workforce Modeling, and Staffing. This workshop is one of several data-gathering sessions to support the committee's iterative study. The overarching goal of the study is to help the Veterans Health Administration (VHA) assess the overall resource needs of its Facilities Management Program and to develop budget and staffing methodologies. Such methodologies can provide better justification for ensuring that local VHA programs are adequately and consistently staffed to accomplish the mission and meet all requirements. This publication summarizes the presentations and discussions from the workshop.

Health-Care Utilization as a Proxy in Disability Determination National Academies Press

Health care HVAC systems serve facilities in which the population is uniquely vulnerable and exposed to an elevated risk of health, fire, and safety hazard. These heavily regulated, high-stakes facilities undergo continuous maintenance, verification, inspection, and recertification, typically operate 24/7, and are owner occupied for long life. The HVAC systems in health care facilities must be carefully designed to be installed, operated and maintained in coordination with specialized buildings services, including emergency and normal power, plumbing and medical gas systems, automatic transport, fire protections and a myriad of IT systems, all within a limited building envelope.