1. Record Nr. UNINA9910495207403321

Titolo	Comprehensive healthcare simulation : improving healthcare systems / / edited by Ellen S. Deutsch, Shawna J. Perry, and Harshad G. Gurnaney
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2021] ©2021
ISBN	3-030-72973-7
Descrizione fisica	1 online resource (237 pages)
Collana	Comprehensive Healthcare Simulation
Disciplina	610.113
Soggetti	Medicine - Simulation methods Simulació (Ciències de la salut) Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Intro -- Foreword: Comprehensive Healthcare Simulation: An Opportunity for Continuous Healthcare System Design -- Foreword: Assimilating Healthcare Simulation -- Preface -- Acknowledgments -- Contents -- Contributors -- Part I: Simulation and Systems: The Big Picture and Overarching Principles -- 1: The Nature of Systems in Healthcare -- What Is a System and How Does It Pertain to Healthcare? -- Conceptual Frameworks of Systems -- SEIPS and SEIPS 2.0 -- Human Factors Engineering Paradigm for Patient Safety -- Patient Work System (PWS) -- MacroErgonomic Analysis and Design (MEAD) Framework -- Systems Engineering (SE) -- Tools to Model and Communicate Systems Characteristics -- Work System Analysis (WSA) -- Functional Resonance Analysis Method (FRAM) -- Cognitive Work Analysis (CWA) -- Network Analysis -- Systems Engineering V -- Analysis and Design Using MacroErgonomic Principles -- Analytical Tools to Capture Domain Expertise and System Interactions -- Simulation and Model Based Systems Engineering -- Failure Mode and Effect Analysis (FMEA) and Success Mode and Effect Analysis (SMEA) -- Conclusion -- References -- 2: Human Factors Applications of Simulation -- Introduction -- Human Factors/Ergonomics -- Brief Overview of Human Factors in Healthcare Simulation -- A Human Factors Approach to Simulated Practice -- HF/E

Analysis of Work Systems to Identify Skills -- Scenario, Debrief and Analysis -- Identifying System Design Improvements -- Testing Interventions -- Conclusions -- References -- 3: Cognition and Decision Making in the Real World -- Introduction -- Naturalistic Decision Making and Sensemaking -- Decisions Are Distributed -- Recognition-Primed Decision Making -- Team Sensemaking and Team Reflection -- Simulation as a Tool to Support the Building of Macrocognitions.
Simulation as a Tool to Practice Behaviors Related to Team Cognition Such as Team Reflection and Sensemaking -- Simulation as a Tool to Investigate and Optimize Work Systems -- Improving Organizational Operations Through a Comprehensive Hospital Wide Simulation Curriculum - A Case Study -- Practical Considerations for Simulation Practice -- Conclusion -- References -- 4: Overview of Simulation in Healthcare -- Introduction -- Overview of Simulation -- How Are Simulations Characterized? -- What Are the Parts of a Simulation? -- Education -- Why Should I Use Simulation in Healthcare Education? -- What Are the Theoretical Underpinnings for Simulation-Based Education? -- How Can I Incorporate Simulation-Based Education? -- Research -- Systems Improvement -- Summary -- References -- 5: Foresight: How Simulation Can Promote Resilient Performance -- Introduction -- How RE Can Improve Healthcare -- Simulation in Healthcare -- Case Study: Cooperative Communication System (CCS) -- Simulations to Evaluate a New System -- Conclusions -- References -- 6: Simulation in Healthcare: A Concept Map -- Introduction -- The Administration, Business, and Management Sub Domains -- Practitioner and Patient Safety: Training/Education Sub Domains -- Practitioner and Patient-Safety: Practical Application &amp -- Research Sub Domains -- Theory and Science Sub Domains -- Logistics and Physical Process Sub Domains -- Summary -- References -- Part II: Practical Applications -- 7: Simulation to Improve the Capabilities of Individuals -- Introduction -- Scope of Chapter -- Simulation to Improve the Capabilities of Individuals -- Simulation to Grow Knowledge -- Simulation to Improve Skills of Individuals -- Simulation to Enhance Individual Behavior -- Conclusion -- References -- 8: Simulation to Improve the Capabilities of Teams -- Introduction. Common Types of Teams Found in Healthcare -- Ad-Hoc Teams -- Consistent Teams -- Settings that Benefit from Improved Team Capabilities -- Simulation to Improve Team Function -- Team Skills -- Cognitive Aspects of Teams -- Simulation Fidelity and Teamwork -- Conclusion -- References -- 9: Simulation Approaches to Enhance Team and System Resilience -- Introduction -- Resilient Healthcare (RHC) Principles -- Implications of RHC for Simulation -- Understanding People in their Context -- Building the Adaptive Capacity of Teams -- Shifting to "Interwoven" Simulation -- Case Study - "Team Resilience" -- Conclusion -- References -- 10: Improving Handoffs Using a Systems Framework and Simulation -- Introduction to Handoffs -- Systems Frameworks to Study Patient Handoffs -- Donabedian's Model -- Simulation Methods Used in Handoff Training -- Examples of Handoff Simulations and System Improvement -- References -- 11: Exploring Workarounds: The Role of Simulation to Build Resilience -- The Role of Simulation in Identifying Workarounds -- Using Simulation to Explore Workarounds -- When to Use Simulation -- Simulation to Improve Resilience -- Conclusion -- References -- 12: Whiteboards that Work -- Information Displays in the Healthcare Environment: An Overview of the Design Challenges -- Factors a Design Team Must Consider for Simulation: User, Task and Situation Characteristics -- Importance

of Form in Information Displays -- Measures of Evaluation -- Case Study 1: Human-in-the-Loop Simulation of Emergency Department Information Displays -- Conclusions -- References -- 13: Tele-Simulation for Healthcare Team and System Improvement -- Introduction -- Definition of Tele-Simulation -- Technical Specifications of Tele-Simulation -- Tele-Simulation Platform -- On-Site Simulation Environment -- Personnel and Training Needs for Tele-Simulation -- Dry-Run.
Simulation Structure -- Uses of Tele-Simulation -- Tele-Simulation as an Educational Intervention -- Tele-Simulation for System Improvement -- Future Direction -- Summary -- References -- 14: Planning Patient Care Areas Using Simulation -- Introduction -- Using Simulation for Planning Patient Care Areas -- Conducting Simulation-Based Evaluations of Patient Care Spaces to Support Innovation and Quality Improvement -- Benefits of Conducting Simulation-Based Evaluations during the Facility Design Process -- Conclusion -- References -- 15: Exploring New Hospital Patient Care Spaces Using Simulation -- Exploring New Hospital Patient Care Spaces -- Applications -- Plan for Transition to a New Space -- Prepare for New Workflows and Environments -- Prepare for Move Day -- Improve Operations -- Identify Latent Safety Threats -- Enhance Patient Experience -- Prepare for Special Circumstances -- Methods for Developing and Implementing Post-construction Simulation -- Simulation Project Planning -- Performing a Needs Assessment -- Identifying and Engaging Stakeholders -- Developing a Simulation Project Plan -- Creating and Designing Simulation Scenarios -- Identifying Simulation Methods -- Virtual Reality/Augmented Reality -- Systems Modeling -- Virtual Patients -- Standardized Patients and Patient/Family Advisors -- Preparing the Debriefs -- Conclusions/Summary -- References -- 16: Airway Emergencies: Simulation for System-Wide Process Improvements -- Introduction -- Airway Management Skills Acquisition -- Airway Emergency Response Team Training -- Developing Emergency Airway Management Protocols -- Protocol Refinement and System Readiness Assessments -- Hospital Wide Integration of your Emergency Airway Management System -- Conclusions -- References -- 17: Simulation to Prepare for the Surge: Workload Management When There Are Too Many Patients -- Introduction.
Learning to Drive: Building Incremental Skills -- Current Literature Reviewing Provider Performance during the Care of Multiple Patients -- Theory of Decision Making and Workload Processing During Periods of Surge -- Implications of High Workload for the Individual -- Implications of High Workload for the Team -- Implications of High Workload for the System -- Practical Implications: Simulation to Help Providers, Teams and Facilities Improve Patient Safety during Patient Surges -- Use Simultaneous Patients to Improve Cognitive Skills, History Taking and Differential Diagnosis Skills -- Increase Complexity of Simulation Cases by Increasing "Signal" and "Noise" -- Uniformly Incorporate Team-Based Skills as Critical Actions -- How Can We Measure Workload? -- Summary and Cost of Inaction: The Impact of Surges on Patient Care and Provider Wellbeing and Engagement -- References -- 18: Using Simulation to Improve Neonatal Care -- Introduction -- Using Simulation to Improve the Performance of Health Care Professionals -- Acquiring and Enhancing Skills -- Using Simulation to Prepare Families for Home Care of the Neonate -- Using Simulation to Design and Assess Systems -- Designing and Testing Clinical Environments -- Usability Testing of Medical Devices -- Trialing New Procedures and Processes -- Summary -- References --

19: Improving Patient Outcomes After Resuscitation with Systematic Debriefing -- Background -- Debriefing in Simulation -- Translating from Simulation into Clinical Care -- Debriefing After in Hospital Cardiac Arrest -- Evidence Behind Value of Clinical Debriefing -- Hot Debriefing After IHCA -- Barriers to Implementation of Hot Debriefing Programs -- Cold Debriefing after IHCA -- Next Steps -- References -- 20: Simulation in Unique Surgical Challenges -- Introduction. Medical Transport of a Critically Ill Child Requiring Extracorporeal Membrane Oxygenation.