

# Emergency Department Design

**A Practical Guide to Planning for the Future**

SECOND EDITION

WRITTEN BY

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## **PART TWO**

Twenty-seven case studies written by architecture  
and design professionals and emergency physicians

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## About the Author

**Jon Huddy, AIA**, as of the publishing of this book, has participated in the analysis, planning, and design of more than 325 emergency departments ... and counting. His emergency department design experience includes projects across the United States, Canada, South America, and Europe. While an architect by training, his emergency department design experience includes a deep understanding of strategic planning, technology integration and how the physical environment can be shaped to support lean operations; allow for efficient staffing and provider coverage; keep the staff and patients safe; and help deliver successful outcomes that result in elevated patient and staff satisfaction scores. His designs have accommodated emergency departments as small as 6,000 annual visits in rural areas and complex medical center emergency departments as large as 200,000 visits. One of his greatest attributes is the ability to bring alternative operational and physical design solutions to his clients by drawing on his international emergency department design experience.



As president of Huddy HealthCare Solutions, LLC, a firm focused on the specialty of emergency department consulting and design, he personally leads each emergency department engagement, whether it be for emergency department strategic planning, operational assessment, master planning, and/or architectural design services. Mr. Huddy has been designing health care facilities since earning a Master of Architecture degree from the Clemson University Architecture for Health Studio in the mid-1980s. He also completed the American Institute of Architects/American Hospital Association Graduate Fellowship in Health Facility Design. Since the early 1990s, Mr. Huddy has focused on the specialty of emergency department consulting and design and has teamed with hundreds of hospitals, physician groups, architects, and builders to deliver successful emergency department design solutions.

Mr. Huddy is a member of the American Institute of Architects and is licensed by the National Council of Architectural Registration Boards. He has written several articles and delivered numerous international presentations and educational sessions on a wide range of topics, including "ED Vision 2030," "Designing More (ED) with Less (Capital)," and "Designing Safe and Secure Emergency Departments." Many of the items and issues from these presentations are presented in this book. His audiences have included the:

- American College of Emergency Physicians (ACEP, US)
- American Organization of Nurse Executives (AONE, US)
- American Society for Healthcare Engineering (ASHE, US)
- Center for Health Design (CHD, US)
- Emergency Nurses Association (ENA, US)
- European Society of Emergency Nurses (EuSEN)
- Health Estates & Facilities Management Association (HefmA, UK)
- Institute of Healthcare Engineering and Estate Management (IHEEM, UK)
- National Ergonomics Conference (US)
- Scottish Health Conference (UK)
- Health and Care Infrastructure Research and Innovation Centre (HaCIRIC, UK)
- International Emergency Department Leadership Institute (IEDLI)

"Huddy," as he has been known since grade school, brings a passion for emergency department design, a commitment to including caregivers throughout the design process, and a humorous, energetic presentation style that has allowed him to develop close and lasting relationships with emergency department caregivers around the world. His unique insights, depth of experience, and impressive track record of successful emergency department design projects are the building blocks from which he has written this text.

Huddy is very interested in hearing about your unique design solutions to the challenges you face in creating your emergency department of the future. He can be reached at 803-517-7522 or [j.huddy@huddyhealthcare.com](mailto:j.huddy@huddyhealthcare.com).

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— *Jon Huddy*

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**Tracy G. Sanson, MD, FACEP**, is an emergency physician with more than 20 years of experience in emergency medicine education, emergency department management, and leadership. She was the director of the Division of Global Emergency Medical Sciences (GEMS) at the University of South Florida and is Co-Chief Editor of *GEMS Journal of Emergencies, Trauma, and Shock*.

Dr. Sanson has served in several and varied leadership positions with the Society for Academic Emergency Medicine (SAEM), the Council of Residency Directors (CORD), and the American College of Emergency Physicians (ACEP). She chairs the College's Educational Meetings Subcommittee and is a member of the ACEP Speaker's Bureau and the 911 network. She has been a member of the ACEP faculty for many years, including the ACEP Teaching Fellowship and the Emergency Department Directors Academy. Dr. Sanson received the National Emergency Medicine Faculty Teaching Award in 2006.

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## Foreword

*"It is difficult  
to get the news from poems  
yet men die miserably every day  
for lack of what is found there."*

Physician and poet William Carlos Williams held deeply to the belief that poetry was not an enigmatic endeavor reserved for mystics and shamans, but that it could impart a true and corporeal impact on those exposed to it. In both good design and good caregiving there is poetry, there is empathy, there is a desire to best aid those who find themselves at our door.

In few places is the importance of careful and conscientious design so evident as the unpredictable environment of an emergency department; a place in which meetings are dire and contingency is one of the few constants, a place where every possibility is one that must be prepared for. This is a space where the unexpected lives, a doorway, a place where quick responses will dictate how we are to emerge. In a space where infinite possibility and uncertainty reign, careful architecture is of the utmost importance — because where there lives the possibility of chaos, so too lives the sister possibility of comfort. It is our job to do everything we can to tip the scale in comfort's favor. That is the aim of this book.

The history of the emergency medicine winds back past Clara Barton and Napoleon's early ambulance service, even further back toward the Knights Hospitaller, bringing relief to injured pilgrims during the Crusades. We find ourselves here, thousands of years later, with the future of our practice winding in new directions still.

Even in the brief years since this book's last publication, the needs of emergency departments have changed rapidly. As an example, the danger to health care providers in professional settings escalates as violence moves off the streets and into the medical setting. Optimal patient care is achieved only when patients, visitors, and health care workers are protected against violent acts occurring within the health care setting. A safe working environment is conducive to improved staff morale and enhanced productivity and has been addressed in this edition. Managing the changing expectations of emergency care can be one of the most stressful and challenging tasks we face. Working with these rapidly evolving expectations of the care we provide will require flexibility, durability, and an attitude of optimism. This requires adaptable environments. This publication presents the tools to appropriately and, at times, innovatively respond to the needs of both the patient and staff. Case in point, this edition resisted the trend toward increasing patient evaluation space at the expense of staff needs, instead recommending adequate break rooms and staff restrooms and even addressing the concerns for breastfeeding employees requiring a private space in which to pump. This edition works to positively and creatively channel your time and energy commitment in developing a "Great place to heal and Great place to work" department.

At the heart of this book is a question: what would an emergency department designed with efficiency, effectiveness, and care at the heart of it look like? This book is intended to fasten together the worlds of all those involved in the design process, allowing each to navigate the other. In designing effective emergency departments, we are called to be both physician and architect, both scientist and poet. To achieve this, we must ask the right questions. This book is an excellent place to begin.

There is power in excellent caregiving as there is power in excellent design. When the two meet, that's where poetry and comfort will live.

—Tracy G. Sanson, MD, FACEP