



EMBARGOED UNTIL 8:00 A.M EASTERN TIME FEBRUARY 23, 2025

Boston University Contact: Maria Ober, 617-224-8963, mpober@bu.edu

Society of Critical Care Medicine Contact: Melissa Nielsen, 847-827-7405,
mnielsen@sccm.org

New Guidelines Proposed for ICU Design

Recommendations have implications for clinical practice, patient safety, and a healthy work environment for staff.

(Boston)—Advances in technology, the evolution of patient- and-family centered care, and infection control challenges—evidenced during the COVID-19 pandemic—highlight the possibilities and challenges of intensive care unit (ICU) design. For example, prior ICU design guidelines in 1995 and 2012 did not envision remote manipulation of ventilator settings or infusion pumps, or the unique problems presented by pandemic care. As a result, the Society of Critical Care Medicine (SCCM) sought to update the 2012 ICU design guidelines.

Published in *Critical Care Medicine*, the journal of SCCM, these new guidelines provide evidence-based recommendations for clinicians, administrators, and healthcare architects to optimize design strategies in new or renovation projects.

“The guideline document is novel as a comprehensive collection of evidence related to multiple aspects of ICU design, and was developed with global use in mind,” says corresponding author Diana Anderson, MD, FACHA, assistant professor of neurology at Boston University Chobanian & Avedisian School of Medicine. “While these guidelines do not serve as a complete reference for ICU design, they provide evidence-based recommendations for several high-impact topics for their design.”

SCCM established a panel of 27 members across the disciplines of architecture, engineering, design, clinical practice, and hospital operation and administration that met virtually from 2019 through 2024 to develop the guideline document. They considered five overall themes related to ICU design: room layout, room design, infrastructure, infection control and prevention, and space for staff. Seventeen recommendations were made, which, if implemented, will result in ICU designs that are centered on patients, families, and clinicians.

Among the key recommendations in the proposed guidelines are:

- ICUs should primarily contain single-patient rooms.
- Patient rooms should be close to key hospital services such as radiology, operating rooms, and blood banks.
- Windows and/or natural lighting should be available in all patient rooms.

The panel also suggested integrated staff break/respice spaces, advanced infection prevention features, and flexible surge capacity.

According to the researchers, the field of evidence-based design is growing, and additional research is needed to demonstrate the effects of space on our health. "This guideline is unique in its development via a truly interdisciplinary group of subject matter experts from around the globe, and a comprehensive collection of ICU evidence and subsequent design recommendations," says Dr. Anderson.

About Boston University Chobanian & Avedisian School of Medicine

Originally established in 1848, the New England Female Medical College became coed as Boston University School of Medicine in 1873. The school today is a leading academic medical center with an enrollment of more than 600 medical students and approximately 1,200 students pursuing Master's and PhD degrees. School of Medicine faculty attracts more than \$372 million in research awards annually, in Alzheimer's disease, arthritis, cardiovascular disease, cancer, infectious diseases, pulmonary disease, amyloidosis, and dermatology, among other areas. The school's 30 teaching affiliates include Boston Medical Center, Boston VA Healthcare System, St. Elizabeth's Medical Center in Brighton, Mass., Kaiser Permanente in northern California, and many others. For more information, please visit <http://www.bumc.bu.edu/camed/>.

About the Society of Critical Care Medicine

The Society of Critical Care Medicine (SCCM) is the largest nonprofit medical organization dedicated to promoting excellence and consistency in the practice of critical care. With members in more than 100 countries, SCCM is the only organization that represents all professional components of the critical care team. SCCM's Critical Care Congress brings together intensivists and critical care experts from around the world to share the latest scientific research, develop solutions to common issues, and improve the care of critically ill and injured patients. Visit sccm.org for more information. Follow [@SCCM](https://twitter.com/SCCM) or visit SCCM on [Facebook](https://www.facebook.com/SCCM).