

Project Title: ICU-ROOM

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Project description:

Intensive Care Units (ICU) are the environment where thousands of professionals provide care to 250,000 critically ill patients each year in Canada. ICU's are built to be functional inpatient areas for 24/7 invasive monitoring, organ support and intensive teamwork. We found that 25% patients are harmed as a consequence of healthcare in ICU –an adverse event- and that 16% die in ICU. ICU's cost tens of millions of dollars to build and have a life-cycle of 2-3 decades. Renovation is expensive and disruptive. Design decisions can impact the quality, safety and efficiency of care. Design elements such as bed placement, visibility, workspace allocation and the location of equipment storage may make it easier *-or harder-* for ICU clinicians to do their jobs and may affect risk of adverse events in patients.

Objectives: To evaluate relationships between the characteristics of ICU bedspaces and

[1] Healthcare-associated harm in patients.

[2] Workflow ratings of ICU professionals.

[3] The experience of patient-visitors.

This project will enable the collection of comprehensive descriptions of the physical environment in 10 ICUs, to describe environmental microbiologic burden, to recruit ICU professionals and patient visitors to share their experiences; to conduct analyses to identify desirable design features; and to create a report for healthcare architects and administrators that better informs ICU design and renovation.

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