

Private room intensive care units associated with lower infection rates

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Converting hospital intensive care units (ICUs) to private rooms is associated with a reduction in the rate at which patients acquire infections, according to a report in the January 10 issue of *Archives of Internal Medicine*, one of the JAMA/Archives journals.

"Health care associated infections occur in about 30 percent of patients in intensive care units (ICUs) and are associated with substantial morbidity and mortality," the authors write as background information in the article. "In ICU patients, these infections are associated with an increased length of stay of eight to nine days, and the resulting additional cost from excess stay alone is estimated to be \$3.5 billion per year in the United States."

Dana Y. Teetsch, M.Sc., Ph.D. candidate, and colleagues from McGill University, Montreal, compared the rates of patient-acquired infections before and after a change from multibed rooms to single, private rooms (intervention hospital). As a control, they also used data from patients who were admitted to a similar multibed facility at a second university hospital (comparison hospital). The authors compared infection rates for a total of 19,343 ICU admissions at both hospitals between 2000 and 2005.

After converting the multibed ICU to all a series of private rooms, the acquisition rate of infectious organisms changed as follows: methicillin-resistant *Staphylococcus aureus* (MRSA) decreased by 47 percent, the rate of *Clostridium difficile* acquisition decreased 43 percent and yeast

acquisition decreased 51 percent. Additionally, the adjusted rate of acquisition of *C difficile*, vancomycin-resistant *Enterococcus* species (VRE), and [MRSA](#) combined decreased 54 percent following the transition from multibed rooms to private rooms.

The average length of stay for patients in the ICU at the comparison hospital increased steadily during the study, while the average length of stay at the intervention hospital fluctuated, but did not increase overall. Additionally, the adjusted average length of stay in the ICU fell by an estimated 10 percent after changing to private rooms.

"An ICU environment with private rooms may facilitate better infection control practices, therefore reducing the transmission of infectious organisms," the authors conclude. "Conversion to single rooms can substantially reduce the rate at which patients acquire infectious organisms while in the ICU."

More information: Arch Intern Med. 2011;171[1]:32-38.

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