

ICU telemedicine reduces interhospital ICU transfers of critically ill patients

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Only a minority of intensive care units (ICUs) in smaller, community, and regional ICUs in the United States hire intensivists to provide advanced critical care, but many employ ICU telemedicine (Tele-ICU) to help fill the gap. The Veteran's Administration (VA) has implemented a Tele-ICU program to provide remote access to comprehensive acute care expertise for smaller, community, and regional ICUs in its health system. A new study in the journal *Chest* examined transfers of ICU patients to acute care centers before and after the VA implemented its Tele-ICU program. Investigators found that hospitals using Tele-ICU support experienced a greater reduction in transfers of ICU patients to other facilities than hospitals that did not use the services. Additionally, mortality did not change when more patients were treated locally through Tele-ICU.

"Tele-ICU provides acute care expertise remotely to help local ICUs treat critically ill patients. Our study validates that it prevents transfers to other facilities without increasing the risk of mortality," explained lead investigator, Spyridon Fortis, MD, Pulmonary, Critical Care and Occupation Medicine, University of Iowa Roy J. and Lucille A. Carver College of Medicine, Iowa City, IA, USA. Tele-intensivists collaborate with local staff to co-manage patient care at the bedside, using cameras and sharing vital signs and equipment, and in many cases, preventing the need to triage patients to centers with more enhanced capabilities. "The on-site treatment helps to lower the cost of care and improves patient, family, and staff satisfaction."

The study tracked 553,523 patients admitted to VA hospital ICUs (97,256 with access to Tele-ICU services, and 456,267 without). Data were retrieved for all patients admitted to 306 VA ICUs in 117 [acute care facilities](#) from October 2009 through September 2015, excluding those for whom vital data were missing. During this period, the VA implemented Tele-ICU at 52 ICUs in 23

facilities in nine states.

Overall, interhospital transfers decreased by 1.47 percent (from 3.46 percent to 1.99 percent) in the facilities with available Tele-ICU and 0.34 percent (from 2.03 percent to 1.68 percent) in facilities without the services, between pre- and post-implementation periods. After adjusting for demographics, illness severity, admission diagnosis, and facility, Tele-ICU was associated with overall reduced transfers; the reduction occurred in patients with moderate, moderate-to-high, and high illness severity and in nonsurgical [patients](#). The findings were not affected by the day of admission or ICU patient volume levels. The decrease in transfers was seen in all patient groups except those presenting with mild illness severity. Tele-ICU did not change overall adjusted or unadjusted 30-day mortality.

More information: "ICU Telemedicine Reduces Interhospital ICU Transfers in the Veterans Health Administration," [DOI: 10.1016/j.chest.2018.04.021](https://doi.org/10.1016/j.chest.2018.04.021)

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