

# Quality improvement intervention for ICUs results in increased use of evidence-based care practices

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A multifaceted quality improvement intervention that included education, reminders and feedback through a collaborative telecommunication network improved the adoption of evidenced-based care practices in intensive care units at community hospitals for practices such as preventing catheter-related bloodstream infections and ventilator-associated pneumonia, according to a study that will appear in the January 26 issue of *JAMA*. The study is being published early online to coincide with its presentation at the annual meeting of the Society of Critical Care Medicine.

Despite expensive life-sustaining technologies, the risk of death and complication rates in critically ill patients remains high. "Evidence-based practices improve [intensive care unit](#) (ICU) outcomes, but eligible patients may not receive them," according to background information in the article. "... nonacademic hospitals face larger barriers to implementing evidence-based care because of heavier individual clinician workloads and fewer personnel devoted to collaborative continuing educational activities."

Damon C. Scales, M.D., Ph.D., of the University of Toronto and Sunnybrook Health Sciences Centre, Toronto, and colleagues conducted a randomized trial to determine whether a quality improvement intervention could increase the adoption of 6 evidence-based ICU care practices. The study included 15 community hospital ICUs in Ontario,

Canada, with a total of 9,269 admissions occurring during the trial (November 2005 to October 2006).

The intervention consisted of a videoconference-based forum including audit and feedback, expert-led educational sessions, and reminders (such as posters and checklists). Intensive care units were randomized into 2 groups. Each group received the intervention, targeting a new practice every 4 months, while acting as a control for the other group, in which a different practice was targeted in the same period. The 6 practices that were included in study were: prevention of ventilator-associated pneumonia (VAP); prevention of deep vein thrombosis (DVT); sterile precautions for central venous [catheter](#) insertion to prevent catheter-related bloodstream infections; daily spontaneous breathing trials to decrease duration of mechanical ventilation; early enteral nutrition (feeding tube); and daily assessment of risk for developing decubitus (pressure) ulcers.

The researchers found that, including all hospitals and targeted care practices, patients in ICUs receiving active intervention were more likely to receive the targeted care practice than those in control ICUs. Improved delivery in intervention ICUs was greatest for semirecumbent positioning to prevent ventilator-associated [pneumonia](#) (90 percent of patient-days in last month vs. 50 percent in first month) and precautions to prevent catheter-related [bloodstream infection](#) (70 percent of patients receiving central lines vs. 10.6 percent). Adoption of other practices, many with high adherence at the beginning of the study, changed little.

The authors note that this study focused on improving the quality of care for patients admitted to ICUs in community hospitals rather than academic hospitals. "Community ICUs admit the majority of critically ill patients and have fewer resources for implementing quality improvement initiatives. Our videoconferencing network is one model for helping health care workers in geographically dispersed [community](#)

[hospitals](#) to improve quality by accessing resources usually restricted to academic hospitals."

"In conclusion, we found that a collaborative network of ICUs linked by a telecommunication infrastructure improved the adoption of care practices. However, improved performance among all practices was not uniform. Future large-scale quality improvement initiatives should choose practices based on measured rather than reported care gaps, consider site-specific (vs. aggregated) needs assessments to determine target care practices, and conduct baseline audits to focus on poorly performing ICUs, which have the greatest potential for improvement."

**More information:** [doi:10.1001/jama.2010.2000](https://doi.org/10.1001/jama.2010.2000)

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