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ICUs receive higher satisfaction scores for end-of-life care than other hospital units

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Family caregivers of the deceased rated the quality of end-of-life care in the intensive care unit (ICU) higher than the end-of-life care in other hospital departments (also called wards), according to new, large Penn Medicine study in the *American Journal of Respiratory and Critical Care Medicine*. The research challenges a common belief that dying in the ICU is a less favorable experience than dying elsewhere in the hospital.

The findings don't suggest that more dying patients should be moved to the ICU, rather that more efforts should be made to learn about the elements in the ICU that potentially improve end-of-care experiences, such as higher staffing ratios. These lessons could then be applied to other clinical settings.

What's more, ICU use—often associated with unfavorable end-of-life experiences by clinicians, researchers, and policymakers—may not be an appropriate measure of poor quality end-of-life care.

"It has been assumed that dying in an ICU is even worse than a ward because it's more expensive and more intensive. But that has been never been based on any sound evidence—it's just based on traditional ways of looking at the problem," said senior author Scott D. Halpern, MD, Ph.D., a critical care physician and professor of Medicine, Epidemiology, and Medical Ethics and Health Policy in Penn's Perelman School of Medicine, and director of the Palliative and Advanced Illness Research (PAIR) Center. "So, we wanted to better understand the difference in the care. Are the doctors getting it right? Are the researchers getting it right?

Are policymakers getting it right? Turns out, none of those parties were getting it right."

The study analyzed clinical data and bereavement surveys from the family members of more than 28,000 patients who died in 106 Veterans Administration (VA) acute-care hospitals between 2010 and 2016 in and outside the ICU, including those who experienced care in both.

Compared with ward-based care, the researchers found ICU care was associated with higher ratings by family caregivers of overall care, pain management, clinician-family communication, emotional support, and spiritual support during patients' final 30 days.

Reducing ICU use has been a longstanding research and policy objective. In many surveys, ICU care has received lower ratings for cancer patients, likely because they underwent aggressive treatments. Driven by this and other factors, researchers have used ICU deaths as an outcome measure in their studies, with the idea that lower rates of ICU death represent better end-of-life care. Policymakers have also clung to this notion, with some pushing for ICU utilization as a measure of low-quality care—a move that could adversely affect hospital patient and safety scores. However, few studies exist to support this view.

To better understand the quality of end-of-life care inside and outside the ICU, Penn Medicine researchers analyzed patient and hospitalization characteristics from VA records and results from the Bereaved Family Survey, which are distributed to family members or close contacts of every veteran who dies in a VA acute care hospital or other VA institutional setting.

The study found that "ICU-only care" was associated with more frequent optimal ratings than "no ICU care," including overall excellent care (56.6 percent vs. 48.1 percent), care consistent with preferences (78.7 percent

vs. 72.4 percent), and having pain controlled (51.3 percent vs. 46.7 percent).

Among patients with mixed care, increasing ICU time was associated with higher ratings on these same measures.

"Instead of just looking at people who got all of their care in the ICU and people who did not, we looked at all people in the hospital," Halpern said. "That actually provides the most compelling evidence that ICU care is associated with better end-of-life quality because we found that the greater the proportion of time spent in the ICU, the higher the quality of end-of-life care. It was a classic 'dose-response' relationship."

The higher ratings may be explained by the more favorable staffing ratios in the ICU and other features that can improve symptom management and other facets of care. ICUs have been the focus of significant research and guidelines on end-of-life care, so greater experience among clinicians and nurses may translate into improved communication and symptom management. And family members of patients receiving ICU care may take solace in knowing that all reasonable efforts to extend life were attempted—which may affect their ratings.

"The implication is that we should work to improve end-of-life care in acute care settings like hospital wards. And because moving people from ICUs to wards may not be a good strategy to improve their end-of-life experience, we need to focus instead on getting people out the hospital entirely for end of life care when feasible," said first author Joshua A. Rolnick, MD, a physician in Penn's division of General Internal Medicine and at the Philadelphia VA Medical Center.

A noteworthy secondary finding was the high rate of uncontrolled pain among patients: more than 50 percent. This finding is consistent with

prior work suggesting high unmet needs for symptom management near the end of life that deserves further study and attention.

According to the researchers, further studies are warranted to not only better understand how factors in ICU may improve end-of-life care outside the ICU in the hospital, but also assisted-care settings, including home hospice care, and to help reduce overall hospitalizations.

More information: Joshua A. Rolnick et al, The Quality of End-of-Life Care Among Intensive Care Unit Versus Ward Decedents, *American Journal of Respiratory and Critical Care Medicine* (2020). DOI: 10.1164/rccm.201907-1423OC