

VIEWPOINT

Derek C. Angus, MD, MPH

Department of Critical Care Medicine, University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania; and Associate Editor, *JAMA*.

Robert D. Truog, MD

Center for Bioethics, Harvard Medical School, Boston, Massachusetts.

Toward Better ICU Use at the End of Life

Are treatment in an intensive care unit (ICU) and good care at the end of life compatible processes or mutually exclusive? This Viewpoint examines arguments for and against intensive care at the end of life and proposes 5 strategies to help ensure the delivery of appropriate and optimal patient-centered care for patients at high risk of death or severe disability.

Argument Against ICU Care at the End of Life

Some argue ICU admission at the end of life should be a "never" event. Three reasons support this argument. First, ICU care is characterized by the aggressive use of often invasive technology designed to rescue seriously ill patients from death. In contrast, high-quality end-of-life care provides patients with a "good death," generally conceived as one without pain or unwanted interventions in the loving care of family and friends. Under this model, the former appears to impede the latter. Second, **1 in 5 US residents receive ICU care at the end of life**,¹ substantially contributing to the statistic that **more than a quarter of Medicare dollars are spent on patients during the last year of life**.² Third, this rate of ICU use in the **United States is higher** than in many **other countries**, with no clear benefit in terms of life expectancy.³ Thus, ICU care in the United States at the end of life appears unwanted, expensive, and **futile**.

Argument for ICU Care at the End of Life

Although patients may not want to die in pain or without family, most prefer not to die at all. The inherent problem with the last-year-of-life argument is that **it is difficult to know when the last year begins**. The ICU is likely inappropriate for patients who are clearly in the final stages of irreversible diseases. However, **for most patients, it is not possible to discern with adequate certainty whether acute deterioration presages a relentless downhill clinical course to death or full recovery** with a good quality of life. Hence, a **trial of ICU care** will often be a **rational and appropriate** clinical choice consistent with patient wishes, even though that trial may, in retrospect, occur at the end of life. Furthermore, an **acute deterioration** may substantially change a patient's prognosis, but patients, families, and members of the care team all process the implications of the change differently. During that time, the **alternative to a prompt ICU admission, keeping a patient on a regular hospital unit or in the emergency department without a definitive plan, is considerably less preferable**.

In addition, complex pain treatment regimens, palliative noninvasive ventilation, or postoperative care for patients recovering from palliative surgical procedures may be delivered more safely and expertly in the ICU than elsewhere. Similarly, when patients are receiving ICU care before the decision to change to comfort measures only, **the family may have formed strong bonds**

with the ICU staff and perceive that their **family member would be most secure** in the hands of the **ICU team**. Thus, concerns notwithstanding, **ICU care at the end of life will likely be inevitable and potentially valuable** in many instances. The challenge is determining how to provide optimal patient-centered care in this setting.

Stemming the Tide of Technological Determinism

Any solution for better use of the ICU at the end of life must start with reflection on overall ICU use in the United States: patients are more likely to receive ICU care at the end of life because they are more likely to receive ICU care in general. Even as hospital bed supply decreased over the last 2 to 3 decades, **ICU bed supply increased such that the United States has approximately 30 ICU beds per 100 000 population, 7-fold higher than the United Kingdom and 3-fold higher than France**, the World Health Organization's top-ranked nation for health care.⁴⁻⁶ Multiple factors have contributed to this increase in ICU capacity, including societal expectations, financial incentives, market pressures, changing medical practice, and the overarching desire and proclivity to adopt technological innovation. **As physicians become used to easy access to ICUs, it becomes difficult to consider caring for critically ill patients anywhere other than the ICU**, even for patients at the end of their lives. This technologic imperative drives not only admission to the ICU, but also a culture to use technology liberally in the ICU, regardless of a patient's prognosis.

Five Strategies for Improvement

Reduce Inappropriate ICU Admissions

This strategy involves **3 key aspects**. First, clinicians must continue efforts to **help patients and families decide in advance** of acute serious illness or severe clinical deterioration whether ICU admission is warranted. Important challenges include the need to ensure that **advance care planning** realistically reflects ICU care scenarios and the need for broad societal changes in expectations about end-of-life care. Second, **ICU physicians must enforce more responsible gatekeeping**. Given the time constraints that are present in **most busy ICUs**, patients may be admitted based entirely on the judgment of the referring physician or after a **brief telephone discussion** with the ICU attending physician, without serious deliberation and consideration of goals of care. Requiring expert and careful consideration by an ICU attending physician can help avoid inappropriate ICU admission, as well as reduce the **error of refusing a trial of ICU care** for a patient who might benefit. Third, the **number of available ICU beds should be reduced**. Although this strategy may seem stark, it is **unlikely** that hospitals and clinicians will effectively **enforce** more responsible and **careful ICU admission** decisions in the absence of some sense of scarcity.

Corresponding Author: Derek C. Angus, MD, MPH, Department of Critical Care Medicine, University of Pittsburgh, 3550 Terrace St, 614 Scaife Hall, Pittsburgh, PA 15261 (angusdc@upmc.edu).

Reevaluate Goals of Care During the ICU Stay

Treatment in an ICU must be **seen as a trial of therapy** and **not an open-ended commitment** to a particular ongoing level of treatment. Intensive care clinicians must be explicit with themselves, referring physicians, other colleagues, and patients and their families that the goal of ICU care is to **help patients improve** and be discharged, **not merely to sustain life**. When clinicians, patients, and families lose sight of this principle, **ICUs become a destination therapy**, and care is **continued until life can no longer be sustained**. There should therefore be more **formal regular reviews and discussions with patients and families** regarding appropriateness of continued therapy and whether the patient is achieving milestones on the road to recovery and discharge. These conversations are challenging and often do not occur because **continuation of ICU care** is seen simply as the **path of least resistance**.

Improve Shared Decision Making With Patients and Families

Intensive care physicians routinely engage in compassionate and empathic conversations with patients at the end of life and their families. However, for effective facilitation of end-of-life decision making, **physicians may need communication skills beyond compassion and empathy**. Such skills are foundational in palliative care, but it is unrealistic to expect involvement of palliative care specialists in the care of all dying patients.⁷ Consequently, researchers have developed **succinct educational programs that improve the communication skills** of non-palliative care clinicians.⁸ The current challenge is to identify the means and motivation for broad dissemination of these programs such that every ICU clinician can embrace effective facilitation of end-of-life conversations as a core competency.

Improve Consensus Building Among the Entire Clinical Team

Different members of the clinical team may have different views on both prognosis and goals of care. For example, an oncologist who has devoted many months of providing care to a patient with the hope of remission or cure may be far more vested in continued aggressive care than the ICU physician who has only recently become involved but nevertheless sees a patient with extremely poor odds of survival. If these **2 clinicians have little history of working together**, it may be difficult to reconcile their disparate views, leaving the patient's **family distressed** by the **mixed messages** they may receive. Although the interpersonal dynamics between silos of clinical practice are certainly complex, the onus rests with the health care system to implement strategies that emphasize communication, respect, and consensus building while mitigating distrust and moral distress.

Make ICUs More Humane

Finally, it is time to **challenge the notion that ICU care includes pain, incapacitation, and mental anguish as inherent and unavoidable adverse effects**. Strategies to substantially eliminate these adverse consequences include the development of safer and more effective analgesics and sedatives and adoption of a more holistic agenda to make the ICU a more humane and healing environment designed to reduce rather than exacerbate suffering. Areas for improvement include **reduction of unnecessary testing, invasive monitoring, and noise and light pollution; open visiting hours; and use of the least restrictive barriers for infection control**. With such strategies, treatment in an ICU and good care at the end of life should no longer be considered incompatible. Rather, ICU care can evolve to be a rational and reasonable option as part of optimal end-of-life care.

ARTICLE INFORMATION

Conflict of Interest Disclosures: Both authors have completed and submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest and none were reported.

REFERENCES

1. Angus DC, Barnato AE, Linde-Zwirble WT, et al; Robert Wood Johnson Foundation ICU End-of-Life Peer Group. Use of intensive care at the end of life in the United States: an epidemiologic study. *Crit Care Med*. 2004;32(3):638-643.

2. Riley GF, Lubitz JD. Long-term trends in Medicare payments in the last year of life. *Health Serv Res*. 2010;45(2):565-576.

3. Emanuel EJ. International comparison of site of death, resource utilization, and hospital expenditures for patients dying with cancer. *JAMA*. doi:10.1001/jama.2015.18603.

4. Milbrandt EB, Kersten A, Rahim MT, et al. Growth of intensive care unit resource use and its estimated cost in Medicare. *Crit Care Med*. 2008;36(9):2504-2510.

5. Wallace DJ, Angus DC, Seymour CW, Barnato AE, Kahn JM. Critical care bed growth in the United

States: a comparison of regional and national trends. *Am J Respir Crit Care Med*. 2015;191(4):410-416.

6. Wunsch H, Angus DC, Harrison DA, et al. Variation in critical care services across North America and Western Europe. *Crit Care Med*. 2008;36(10):2787-2793.

7. Schenker Y, Arnold R. The next era of palliative care. *JAMA*. 2015;314(15):1565-1566.

8. Arnold RM, Back AL, Barnato AE, et al. The Critical Care Communication project: improving fellows' communication skills. *J Crit Care*. 2015;30(2):250-254.