

fault with their statement regarding the multiple factors that contribute to next day delirium and note that our estimated effect size for haloperidol was very small relative to those of such well-recognized influences as cognitive impairment and intubation. Our citation of the Society for Critical Care Medicine guidelines (6) was deliberately neutral and intended to draw attention to the fact that our discipline's routine use of haloperidol is largely empirical, in contrast with the robust clinical trials that often justify the use of medications in other disciplines. In their closing statement, Hermus et al (1) conclude that the use of large doses of haloperidol among a case mix of hypo- and hyperactive delirium is very plausibly associated with positive diagnosis of next day delirium. In short, there is a great deal of consistency between the practice-based observations of Hermus et al (1) and the model results reported in Pisani et al (2).

What we most like about Hermus et al (1) is their insistence that hypo- and hyperactive delirium are qualitatively distinct and likely require differential treatment. And although their assertion that low doses of haloperidol are efficacious for persons suffering from hyperactive delirium strikes us as pragmatic and compassionate, definitive studies have not yet resulted in a clinical consensus. Our study and their comments support the idea that better instruments are needed to diagnose delirium and to distinguish between hypo- and hyperactive delirium, as well as severity of ICU delirium. Like Hermus et al (1), we believe that the use of haloperidol to treat delirious patients must be carefully considered in terms of dosage and on patient symptoms such as the nature of their delirium, whether or not they are intubated, and severity of illness. Clinical trials randomizing delirious persons to treatment with haloperidol and placebo that examine outcomes based on motoric subtypes and intubation status are needed to provide more rigorous evaluation of the efficacy of haloperidol as a treatment for delirium.

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Critical Care Delivery and ICU Structure—The Elephant in the Room

To the Editor:

We read with interest the article by Weled et al (1) on the importance of ICU structure on improved outcomes for our ICU patients. The article began with a seminal quote from one of the true creators of multidisciplinary critical care medicine:

The best possible care of critically ill patients can be rendered when physicians of various specialties, nurses, and allied health professionals join forces and treat problems together.

Ake Grenvik, MD (1974)

The 2009 Task Force on Models of Critical Care reviewed and summarized the current literature pertinent to the 2001 Society of Critical Care Medicine practice model guidelines (2), to process improvement in the ICU, and to the integration of ICUs with other areas of the hospital. Their conclusion based on this review is that "an intensivist-led, high-performing, multidisciplinary team dedicated to the ICU is an integral part of effective care delivery." They reviewed the current literature on "fulltime" versus "timely available" intensivists, nighttime intensivist coverage, high- versus low-intensity ICU coverage, and closed versus open ICUs to come to these conclusions, all of which seem very reasonable. However, the authors did not mention or discuss in their article several of the most important questions facing those of us who are interested in the future organization of the ICU. What exactly is meant by "an intensivist-led ICU" in an open ICU, as most surgical ICUs remain in this country? Should the ICU be run as a division of another service within the hospital (medicine, surgery, and anesthesia) or should the ICU be run by a separate critical care medicine service with equal standing to the other services? Should there be movement toward a unified, multidisciplinary critical care medicine service (encompassing medical, surgical, neurological, trauma, transplant, and cardiac patients) or should there be a continued Balkanization of critical care medicine with each service running their own ICU?

The forces bearing on the ICU are manifold and changing. The financial pressure being brought on hospitals and providers to minimize complications, hospital readmissions, and lengths of stay—especially for new structures such as the Accountable Care Organizations and with the increasing prominence of new payment strategies including bundled payments—will only increase the pressure for high-quality care within the ICU. This will increase the demand for 24/7 intensivist coverage within the ICU and will only increase the current discrepancy between intensivist demand and the limited supply of board-certified providers. That discrepancy has been accurately described in this journal as the coming “perfect storm” for critical care medicine (3). This storm will not only put increasing pressure on resolving the gap between the need for intensivists and the number of medical school graduates choosing training in critical care medicine but will increase the pressure on the profession to resolve the structural reasons for this storm. Those structural reasons include both the organization of critical care in the ICU and the organization of critical care training, and these issues are tightly linked.

Critical care organized as a subspecialty of medicine, anesthesia, and surgery has been producing intensivists at a rate that exacerbates the current discrepancy between supply and demand (4). Pulmonary/critical care training programs produce intensivists that on average devote only 23% of their professional time to critical care, whereas surgery and anesthesia training programs are producing ever decreasing numbers of intensivists. The profession must develop new critical care medicine structures that will both attract medical students into the field and have the resources to train and employ them. The question is not “should an ICU be led by an intensivist”—that question is settled. The questions are as follows: Should critical care be a department of the hospital and of the medical school and have control over its own budget? Should critical care be organized as a unified service to eliminate redundancy, to insure efficiency, and to promote evidence-based and protocol-driven care and thus to allow Grenvik’s physicians of various specialties to work together and to learn from each other? Should educational structures that have been examined but not implemented in the past, such as a single-entry multidisciplinary fellowship, be examined again? Should disruptive new organizational structures, such as an independent specialty in critical care medicine with a single-entry residency—as has been implemented in parts of Europe and in Australia and New Zealand—be discussed in this country? The overview of the Australian and New Zealand Intensive Care Medicine training program in this in the September issue of *Critical Care Medicine* provides a fascinating perspective on both the trials and benefits of their program for ICU organization and training—including perhaps most importantly that medical students are choosing critical care medicine training at unprecedented levels (5).

Although important, the questions addressed in this article pale in comparison to these questions. There is a huge vested interest in maintaining the status quo in ICU organization, and change will be neither easy nor quick. However, to start the process, these questions must be asked and must be studied.

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The authors reply:

The *New York Times* first used the simile about the “elephant in the room” on June 20, 1959, arguing that “financing schools has become a problem about equal to having an elephant in the living room—it’s so big you just can’t ignore it.” The phrase is now commonly applied to explain something so obvious that it is largely ignored or at least it is not readily appreciated. In a similar vein, Hans Christian Andersen once wrote a fairy tale about an emperor and some new clothes. In Andersen’s version of the “elephant in the room,” it took the innocence of childhood to recognize that the emperor was, in fact, wearing no clothes at all. It may be that both of these metaphorical idioms apply to our recently published update (1) on the American College of Critical Care Medicine’s 2001 “Models of Critical Care” guideline (2). After reviewing the previous guideline (2) and following an exhaustive review of the literature published since that time, we concluded that the best model of critical care delivery was based on four simple, yet fundamental tenets. First, an intensivist-led, high-performing, multidisciplinary team dedicated to the ICU is integral to effective delivery of critical care. Second, process improvement forms the backbone of achieving excellent outcomes. Third, standardized protocols should be developed and implemented