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Expertise Matters: Letter in Response

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Expertise matters

This is one of the fundamental lessons of modern critical care and lies at the core of a seeming paradox: patient outcomes from many critical diseases are improving while many large “one size fits all” clinical trials return with negative results. We strongly agree with most of the tenets put forth by Dr. Vincent regarding the need for individualized care for critically ill patients (1). However, we are surprised at the proposition that subspecialty units are unnecessary and possibly detrimental. This has not been the experience with neurocritical care.

Multiple studies (although not large randomized trials) have found that neurocritical care units are of distinct value (2–5). Findings have included decreased mortality, improved functional survival for a variety of diagnoses, and decreased resource utilization. A recent meta-analysis demonstrated that specialized neuroscience ICU (neuroICU) care reduces mortality and improves outcomes (3). So what is the “secret sauce” to improve patient outcomes? Is it the room (neuroICU), equipment, nurses, physicians, protocols, or knowledge of when to deviate from protocols and provide individualized care, or is it something else? It seems likely that the neurocritical care units in these studies serve as focal points for expertise delivered to the vulnerable patient. While neuroICUs focus on expertise in clinical neurosciences, they also address the overall critical and noncritical care needs of the patients. Rather than dismissing subspecialty intensive care units as unnecessary, we suggest that all of us should seek to learn from their successes.

Further, the Trauma Audit and Research Network (TARN) study (5) from 2005 strongly suggested that outcomes for patients managed in a general hospital ICU were worse than those managed in a neuroscience center. Such treatment was associated with a 26% increase in mortality and a 2.15-fold increase (95% CI: 1.77–2.60) in the odds of death adjusted for case mix compared with patients treated at a neurosurgical center. This led the National Institute for Clinical Excellence (NICE) to modify their guidance with the following recommendation about management in a neuroscience center: “Transfer would benefit all patients with serious head injuries (GCS $\leq$ 8), irrespective of the need for neurosurgery.”

We appreciate that the specialized distinct neurocritical care units in the US and Canada may not be the optimal organizational approach in some developing countries or in hospital systems with limited resources. Our point is not to fracture care or create logistical barriers. Rather, we should all seek a patient-centered model of care that brings the needed expertise to the patient. This will likely require a combination of thoughtful checklists and protocols for routine care, education in fundamental critical care issues common to all patients, advanced education of expert providers in focused areas, expanded informatics and integration, and, most of all, highly motivated providers. The past two decades in neurocritical care have shown us that specialized expertise in critical care really does matter.

Let's remember this as we move to the future of critical care. Our patients are counting on us.

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