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Ⓔ Rethinking Delivery of Care for Patients Requiring Prolonged Mechanical Ventilation

Patients requiring prolonged mechanical ventilation because of persistent respiratory failure experience a transition from the acute phase of illness responsible for intensive care admission and mechanical ventilation to one of rehabilitative and, in some cases, palliative care. This transition requires adaption of their clinical management plan and the way care is delivered (1). Important domains of care include liberation from ventilation; symptom relief; nutrition; physical, cognitive, and psychological rehabilitation; and discharge planning (2, 3). In the United States, this transition is frequently accompanied by transfer from an ICU to a lower intensity care setting located in a long-term acute care hospital. These hospitals specialize in care delivery for patients requiring extended hospitalization, providing rehabilitation services to patients requiring prolonged mechanical ventilation and those with other prolonged acute conditions (4).

In this issue of the *Journal*, Rak and colleagues (pp. 823–831) report a large and rigorously conducted ethnographic study of delivery and organization of care to patients requiring prolonged mechanical ventilation in eight long-term acute care hospitals (5). Using a positive–negative deviance approach, the study objective was to identify care practices common to high-performing hospitals but infrequent or absent at low-performing hospitals. The overall aim was to develop a framework for optimal care delivery for patients requiring prolonged mechanical ventilation. Participating sites were recruited from those long-term acute care hospitals identified as within the highest or lowest performance quartiles identified using a previously validated model of risk-adjusted mortality. Data comprised 329 hours of direct observation (2–3 observers for

4 d at each site), 196 key informant interviews, and 39 hours of job shadowing.

From these data, the authors identified four important, yet interdependent, domains of effective care practices considered influential for liberation from ventilation: ventilator care; mobilization; nutrition; and management of pain, agitation, and delirium. Identification of these domains in themselves is not novel because other authors have described these care practices as having an important role in successful liberation (6, 7). Importantly, however, Rak and colleagues extend our understanding of these domains through the identification of attributes of effective care within them (i.e., finding the appropriate and individualized balance between aggressiveness and responsiveness of care). As an exemplar, the investigators define aggressiveness of care as the degree to which ventilator management emphasizes physiological progress at the expense of day-to-day patient cues (i.e., continuing a spontaneous breathing trial despite patient distress and request to discontinue). Conversely, responsiveness of care is the degree to which ventilator management emphasizes day-to-day patient cues at the expense of physiological progress (i.e., discontinuing a spontaneous breathing trial at the request of the patient despite respiratory parameters being within normal ranges).

A key finding of the study was that high-performing hospitals achieved the optimal balance between aggressiveness and responsiveness individualized to a patient's needs. This occurred through a mechanism of action that reflects the concept of relational coordination: a mutual process of communicating and relating (i.e., shared goals, shared knowledge, and mutual respect); in other words, interprofessional teamwork and collaboration (8) for the purpose of task integration (9).

The complex, interrelated, dynamic, and frequently emotionally charged care for patients requiring prolonged mechanical ventilation and, indeed, all critically ill patients necessitates effective interprofessional communication and collaboration to enable a shared team approach to care delivery (10). Unfortunately, a substantial body

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of evidence suggests poor communication and conflicts are common among ICU interprofessional teams, resulting in inefficiencies and reduced quality of care (11). Therefore, the knowledge gained from this study of long-term acute care hospitals by Rak and colleagues may be translatable to other ICU settings.

Certain organizational factors defined high-performing long-term acute care hospitals, including engaged leadership teams promoting a culture of quality improvement; consistency in physician and nursing staffing with higher staffing numbers, including ancillary staff; team meetings that promoted discussion and involved frontline clinicians; and detailed yet flexible care protocols that enabled autonomy of these frontline clinicians. Moderate quality evidence suggests weaning protocols benefit patient outcomes by enabling respiratory therapists or nurses (context-specific, relating to the professional makeup of the country) to enact the weaning process (12). However, data from randomized controlled trials on the efficacy of weaning protocols for patients requiring prolonged mechanical ventilation are limited and few include guidance specific to prolonged mechanical ventilation (7). Furthermore, most weaning protocols are considered to subvert the level of individualized ventilation to achieve a balance between aggressiveness and responsiveness required by patients requiring prolonged mechanical ventilation.

Another defining feature of high-performing hospitals was a patient-centered and family-centered approach. Patients and families were considered active members of the care team, with a voice in decision-making and with family member involvement in care delivery (e.g., assuming the role of coach during spontaneous breathing trials). Interestingly, the authors identified that if a patient failed to make progress, families tended to disengage or disrupt care coordination. Proactive as opposed to reactive communication with families, enabling both passive and active family presence at the bedside, and finding strategies to facilitate patient communication for involvement in developing care goals and participating in decision-making reflect central tenets of patient-centered and family-centered care (13).

Although certain organizational characteristics are highlighted, a key question that remains unanswered in this important and well-conducted study is how can lessons from high-performing hospitals be translated to low-performing hospitals and, potentially, to other locations of care for patients requiring prolonged mechanical ventilation, such as the ICU. ■

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