

Chronic Critical Illness: Are We Just Adding Years to Life?

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Chronic critical illness (CCI) patients require prolonged specialized care for months or years and remain a challenge for intensive care professionals and healthcare.¹ It is common in the elderly although the incidence is noted to decline in the very elderly due to an increase in early mortality in that age-group.² Modern life-sustaining technologies allow us to keep patients alive despite ongoing life-threatening illnesses. However, this comes with a price including cognitive and functional restrictions, the burden of decision-making for caregivers, and the impact on the healthcare system at large.³

The Pareto principle, also known as the 80–20 rule is relevant in healthcare in many ways. A rather small number of people (20%) utilize the majority (80%) of health-care consultations and hospital admissions.⁴ The majority (80%) of an individual's healthcare needs and expenses are in the last 20% of their lives. It is also estimated that 80% of the cost of care is spent in the initial 20% of the hospital stay. However, this may not apply to those with CCI as costs may surge during the hospitalization with clinical changes requiring additional interventions and therapies that may be expensive.

Intensive care units (ICUs) are traditionally considered to be expensive,⁵ and every attempt is made to transfer patients out to other areas based on the level of care required. The venue of care of CCI may vary based on the facility and the health-care system. In most countries, step-down units, high dependency units, or transitional care units provide a lower cost option to provide monitored multidisciplinary care. In countries such as the United States, where healthcare is predominantly driven by third-party insurance payers, specialized long-term acute care hospitals and skilled nursing facilities provide an alternative venue of care. However, stringent protocols and guidelines on the level of care that they could provide prompt readmission to hospitals when the patient has any significant changes in clinical status. Patients and families continue to exercise their choice in such payment models despite attempts by the treating team to explain the overall prognosis and quality of life measures. Strategies for effective communication should be implemented for shared decision-making in this scenario.⁶ If survival remains the only goal of therapy, we continue to “cheat” life at any cost.⁷ In predominantly socialized health-care systems such as the National Health Service in the United Kingdom, European countries, Canada, and Australia, the cost of continued care is borne by the government and indirectly by the tax payers. Measures are adopted to provide this long-term care in dedicated wards as ICU beds are limited and in high demand. While efforts are made to cover medically necessary services, some of these countries limit coverage for services such as home health or medications.⁷ In countries such as India, where payment for healthcare is largely “out of pocket,” decisions by the family are not uncommonly driven by the ability to pay for continued

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care. This is changing over the years with initiatives on healthcare coverage provided by government and private payers but still largely inadequate to cover prolonged illnesses. ICU at home is evolving as a more cost-efficient option in this scenario although adding significant physical, mental, and financial burden to the families. In this study, “talk turkey” about their observations in a retrospective cohort from an academic center, the authors observed that patients with hemodynamic instability requiring vasopressors and those with neurological comorbidities were at greatest risk of CCI. Not surprisingly significant number of patients with CCI were tracheostomized. The cost for a patient with CCI was six-fold while mortality was also significantly higher. The authors do not clearly specify if some of the extended care could have been provided in alternative venues in their facility to reduce the ICU length of stay.

CCI leads to sleepless nights for the patient and the family. It is indeed appropriate to apply a concept similar to Spielman's 3P model of chronic insomnia⁸ while managing patients with CCI by evaluating the following aspects:

- *Predisposing factors* that include the comorbidities (particularly neurological) that lead to hospitalizations but not necessarily always requiring critical care.
- *Precipitating factors* such as noncompliance or infections leading to acute on chronic organ failure necessitating organ supports such as ventilation, hemodynamic support, and renal replacement therapy.
- *Perpetuating factors* including malnutrition, dyselectrolytemia, pressure ulcers, nosocomial infections, iatrogenic issues, and physical aspects such as delayed mobility.

I would like to propose that we evaluate larger cohorts of CCI to develop and validate a scoring system based on the above factors to assist with additional 3Ps in the management which should include the following aspects:

- *Prevention*—which begins from efficient chronic disease management and also promptly addressing precipitating and perpetuating factors

- *Prognostication*—to assist the family with patient-centered decision
- *Palliation*—when appropriate

By utilizing this model, we will be in a position to create value-based programs to provide more appropriate care for those with a chronic critical illness.

Mortality has been the most studied outcome in critical illness, and we experience a moment of triumph about increased survival with advances in technologies and therapies. But are we only adding years to life without being considerate of the quality of life added to those years?⁹ Are we saving patients or creating victims?^{10,11} Are we communicating efficiently to assist with the decision-making? And most importantly, whose life and money is it anyway? Time to ponder.

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