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Commentary: Extracorporeal membrane oxygenation (ECMO) and coronavirus disease 2019 (COVID-19): Beyond the brink of a pandemic

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The coronavirus disease 2019 (COVID-19) pandemic has been referred to as the \$16 trillion pandemic.¹ Indeed, the total cost will approximate 90% of the United States' annual gross domestic product.¹ As if the tens of millions of people infected is not enough, individuals who survive COVID-19 will also have to navigate potential long-term complications of a respiratory, cardiac, and mental health variety.¹ This burden will also impose the toll of premature death in a large proportion of the population, which will cost the economy a further \$4.4 trillion.¹ To this end, we expect 7 times more survivors than those who will succumb to the disease and an accompanying exponential economic burden.¹ Indeed, long-term impairment will likely be a recurring feature in the recovery phase of severe acute respiratory virus syndrome coronavirus-2 (SARS-CoV-2).

Survival following the use of extracorporeal support in patients with COVID-19 is approximated at 50%, and this is far less than the survival in patients with influenza A.^{2,3} Mayer and colleagues⁴ report on the ambitions of a collaboration between 5 academic medical centers using a protocolized outpatient postintensive care algorithm catered to

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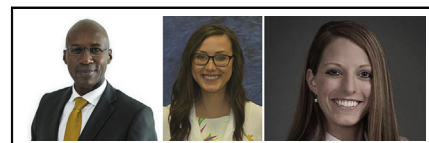
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CENTRAL MESSAGE

ECMO use in patients with COVID-19 would benefit from long term evaluation.

survivors of COVID-19 who had been supported on extracorporeal membrane oxygenation (ECMO) during their course of illnesses.⁴ This postintensive care takes into consideration threats of cognitive impairment and an emphasis on physical rehabilitation to establish evidence-based care protocols that encourage a reduction in sedation and paralytics and endorse mobilization and cognitive exercises while in the intensive care unit. Each of these is intended to mitigate the deficits that occur later.

The broad multidisciplinary collaboration is emblematic of the importance of stakeholder interplay that influences survival beyond the disaster.⁵ A feedback loop will likely evolve to inform candidacy and guide stewardship of ECMO as a whole, motivating a better selection of patients who might best benefit from the high-resource intensity care and whose recovery will continue to be adjudicated as the patients return to society.

The magnitude of financial loss with the COVID-19 pandemic has reignited interest in the cost-effectiveness of care delivery. The establishment of this coalition lends credence to the notion that finite resources require thoughtful, pragmatic oversight.⁴ The authors are encouraged to take the analysis a step further and evaluate the disproportionate access to quaternary resources that exists in addition to a potential differential that may characterize long-term outcomes that closely mirrors that observed in the analysis of short-term outcomes. In this vein, Mayer and colleagues may highlight chasms in access that accentuate the complexities observed amongst patients drawn from vulnerable populations in the United States. That may be an imperative in itself.⁶

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