

Inter-hospital transfer and clinical outcomes for people with COVID-19 admitted to intensive care units in Australia

TO THE EDITOR: We read with interest the article by Cini and colleagues¹ related to the clinical outcomes of intensive care unit (ICU) patients with coronavirus disease 2019 (COVID-19) who were transferred between hospitals. These included inter-hospital transfers for clinical need to provide access to higher level care, or transfers for capacity reasons because some hospitals were disproportionately placed under strain. We studied a group of mechanically ventilated patients with COVID-19 who were transferred out of our tertiary care ICU to ease demand on our resources during the third wave of the pandemic (unpublished data).


In our single centre study, the clinical outcomes of 17 patients (13 men, four women; mean age, 55.8 years; median Acute Physiology and Chronic Health Evaluation [APACHE] III score, 46.0; mean body mass index [BMI], 31.4) who were transferred out for capacity reasons were compared with those of 54 concurrent controls (35 men, 19 women; mean age, 56.1 years; median

APACHE III score, 50.0; mean BMI, 35.2) who remained in our ICU. The crude in-hospital mortality (35.3% *v* 25.9%) between the two groups and the unadjusted risk ratio (1.36; 95% CI, 0.62–2.98; *P* = 0.67) was higher among patients who were transferred out, but this difference was statistically not significant. Adjustment for age, BMI, and APACHE III score did not change the risk of in-hospital mortality. The duration of mechanical ventilation among patients transferred to another ICU for capacity reasons was higher (median, 626 hours [interquartile range (IQR), 456–816 hours] *v* 312 hours [IQR, 144–779 hours]; *P* < 0.001). Likewise, there was a longer duration of ICU stay (median, 33 days [IQR, 21–36 days] *v* 19 days [IQR, 10–42 days]; *P* = 0.08) and a relatively longer hospital stay (median, 36 days [IQR, 26–47 days] *v* 28 days [IQR, 19–56 days]; *P* = 0.36) (unpublished data).

These findings differ from those reported by Cini and colleagues¹ and those from other jurisdictions.² They serve to caution clinicians and policy makers that pragmatic capacity-related transfers may have an adverse impact on the clinical outcomes of patients. Moreover, efforts made to relieve strain at one facility may result in

some unintended consequences. In our study, nearly 60% of patients initially transferred to Tier 2 metropolitan hospitals subsequently required a second transfer to tertiary care ICUs.

Although seemingly feasible and safe, inter-hospital transfer of critically ill patients with COVID-19 for capacity reasons may result in conflicting outcomes; therefore, further analysis of SPRINT-SARI data is urgently needed.

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- 1 Cini C, Neto AS, Burrell A, Udy A, SPRINT-SARI Australia investigators. Inter-hospital transfer and clinical outcomes for people with COVID-19 admitted to intensive care units in Australia: an observational cohort study. *Med J Aust* 2023; 218: 474–481. <https://www.mja.com.au/journal/2023/218/10/inter-hospital-transfer-and-clinical-outcomes-people-covid-19-admitted>
- 2 Stark AJ, Chohan S. The association of intensive care capacity transfers with survival in COVID-19 patients from a Scottish district general hospital: a retrospective cohort study. *J Intensive Care Soc* 2022; 24: 277–282. ■