

## Third wave of COVID-19 delivers highest mortality risk in Australian ICUs

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### Relatively few infections were experienced in waves one and two



According to a new study led by Monash University, of those admitted to the intensive care unit (ICU) with COVID-19, after accounting for age and how sick patients were, the third wave of the disease in Australia was associated with the highest risk of dying in hospital, in comparison with earlier waves.

Patients admitted to ICU during the third wave were mostly unvaccinated (75 per cent), younger than the previous two waves (24 per cent > 65 years of age), more likely to be pregnant and/or obese, and less likely to have co-morbid conditions.

However, while the length of ICU and hospital stay decreased, the risk of dying in hospital increased. Interestingly, although fewer ICU patients received invasive respiratory therapies, the change in in-hospital mortality risk was primarily seen in those who had received mechanical ventilation. This observation is in the context of changes in the inherent virulence of the COVID-19 virus (e.g. the emergence of the delta strain), adoption of new therapies in ICU, and an increased volume of hospital admissions overall.

The research looked at the evolving patient characteristics, treatments and outcomes of critically ill patients in the first, second and third waves of COVID-19 in Australia utilising data from SPRINT-SARI Australia, a hospital-based surveillance database that enables real-time tracking and reporting of the sickest patients with COVID-19 in Australian hospitals and Intensive Care Units.