

Severe COVID patients risk an increase in mortality rate when cared for outside of an ICU

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Providing high-quality care to severely ill patients is a complex endeavor that requires trained personnel, a designated setting, monitoring

equipment, and specialized management. Researchers from the School of Medicine at Trinity College and St James's Hospital have, for the first time, studied the clinical characteristics and the relative impact of caring for severe COVID-19 patients outside of the intensive care unit (ICU) setting in Ireland. The impact and outcome had been previously unknown. Their findings, which are part of a larger global study, have been published in *ERJ Open Research*.

Clinical care consultants Professor Ignacio Martin-Loeches and Professor Juan Valverde led the investigation of the impact of the current over-whelmed ICU situation here in Ireland.

Throughout the SARS-CoV-2 pandemic, many international healthcare systems became overwhelmed, requiring medical interventions traditionally restricted to delivery in an ICU by specially trained personnel, to be delivered in other hospital areas, sometimes by healthcare workers without equivalent training. Ireland was no different in this regard.

The team identified that severe COVID-19 patients admitted to ICU had lower 28-day and 90-day fatality ratios, independent of age, [disease severity](#), number of comorbidities, countries' income classification, healthcare system saturation (i.e., number of new cases per day), and treatments received when compared with patients that were cared for outside of ICU, in an interim setting.

Key findings of the study

- Severe COVID-19 patients were frequently male, older adults with at least one comorbidity.
- The overall median length of hospital stay was 10 days (5–19) and was longer in patients admitted to an ICU than in those that were cared for outside of ICU.

- The 28-day fatality ratio was lower in patients in ICU.
- Patients admitted to an ICU had a significantly lower probability of death than those who were not.
- Patients with severe COVID-19 admitted to an ICU had significantly lower 28-day fatality ratio than those cared for outside of an ICU.

The study represented the Irish cohort in a wider EU project that observed 14,000 patients in 43 countries representing 6 continents.

Professor Ignacio Martin-Loeches, School of Medicine, Trinity College and Consultant in Intensive Care Medicine, St James's Hospital Dublin, said: "Research in [critical care](#) has helped us understand a lot for COVID 19. The severity of the disease and the research conducted in critical care has helped to better understand where we have leaks in the provision of care in severe patients. COVID has shown us why critical care is important but critical care cannot be provided anywhere.

"Critical care is not simply a bed and a ventilator; it needs adequate staff including specialized nurses and doctors and an adequate place to deliver care. Investment in critical care saves lives. The findings of research conducted in ICUs are not reaching the public and is not a part of the national discourse, throughout this pandemic. It is imperative though that we reach the public audience and that they understand the reality of this virus and how it is impacting our ability to keep those in critical care safe, and alive.

"This study is strictly clinical and gives a snapshot of what has happened during a terrible pandemic. Currently most patients in critical care are unvaccinated, and the system is under pressure. Bed occupancy represents a huge concern. Ireland has one of the lowest critical care beds per capita. Germany and the U.S. have respectively five and six times more ICU beds than Ireland. Improvisation of having more ICU

beds is not a good idea when there is a surge of need in ICU beds."

More information: Luis Felipe Reyes et al, Clinical characteristics, risk factors and outcomes in patients with severe COVID-19 registered in the ISARIC WHO clinical characterisation protocol: a prospective, multinational, multicentre, observational study, *ERJ Open Research* (2021). [DOI: 10.1183/23120541.00552-2021](https://doi.org/10.1183/23120541.00552-2021)

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