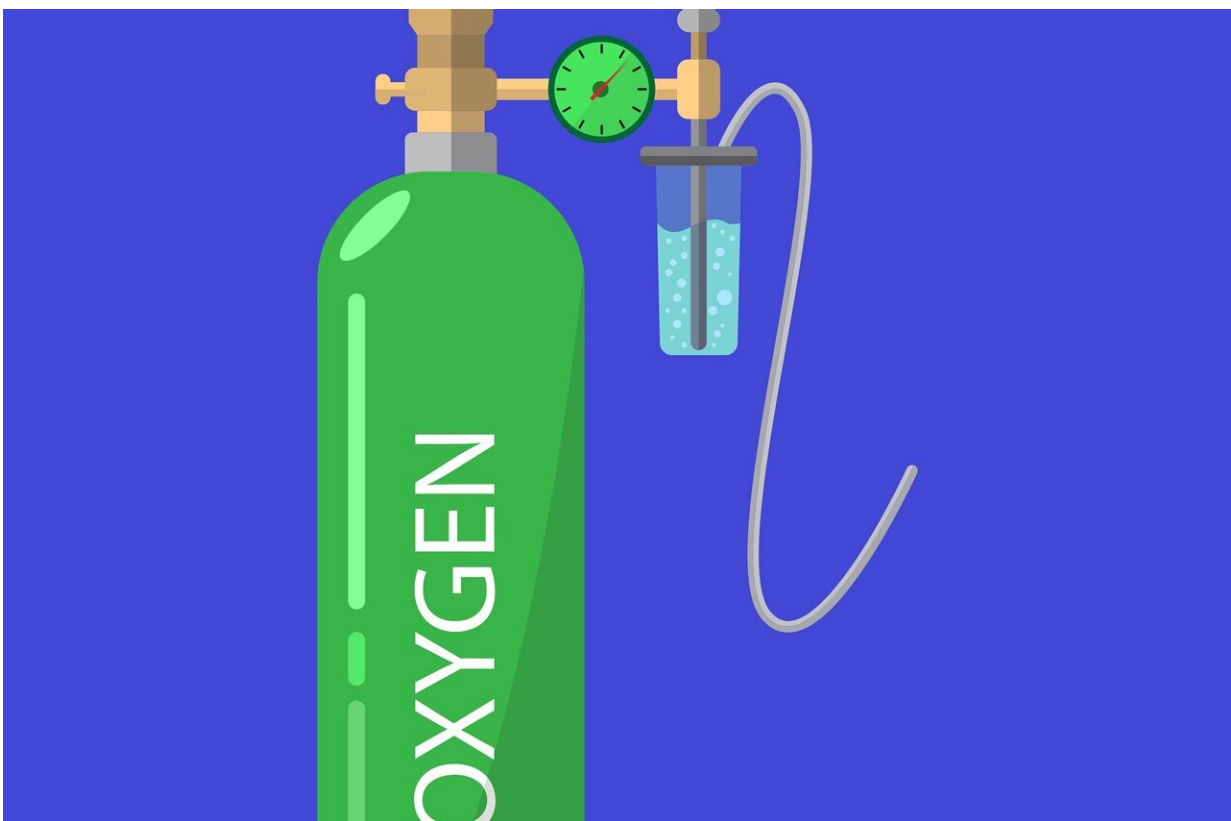


Latest review shows intensive care mortality from COVID-19 continued to fall in 2020, but improvement is slowing

February 2 2021



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A meta-analysis of global studies published in *Anaesthesia* shows that intensive care mortality from COVID-19 has continued to fall since the

start of the pandemic, but the improvement is slowing and may have plateaued. The study is by Professor Tim Cook (Consultant in Anaesthesia and Intensive Care Medicine, Royal United Hospitals Bath NHS Foundation Trust, Bath, UK, and Honorary Professor, School of Medicine, University of Bristol, UK) and colleagues.

A previous meta-analysis by Cook and colleagues, published in July, 2020, concluded that overall mortality of COVID-19 patients in intensive care units (ICUs) has fallen from almost 60% at the end of March 2020 to 42% at the end of May 2020—a relative decrease of around one third. This new study shows that, in studies up to October, 2020, ICU mortality has fallen again to 36%. Thus, while the situation is still improving, the pace of progress has slowed substantially.

In this study, the authors used data from 52 [observational studies](#) including 43,128 patients, and, in addition to studies from Europe, North America and China that had been included in the earlier review, this study included first reports from the Middle East, South Asia and Australia, as well as four new national or regional registries.

The authors explain that, in the last few months, several studies have clarified which treatments do and do not provide benefit in the ICU management of COVID-19. Steroids (particularly dexamethasone) were shown in early June to improve survival in patients who are oxygen-dependent or receiving mechanical respiratory support, while other drugs including hydroxychloroquine, azithromycin, lopinavir/ritonavir and remdesivir have been shown to have no clear mortality benefit. They also note that management of COVID-19 has also likely evolved over the year with changes in approaches to oxygen therapy, fluid therapy and management of blood clotting.

The data show that in most geographical regions the ICU mortality rate from COVID-19 is 30- 40%. Two geographical regions fall outside these

limits and are statistically significantly different from other [geographical regions](#). A single registry report from Victoria State in Australia (home to the city of Melbourne) reports very low mortality of 11%. Conversely in the Middle East, mortality from a study including four countries is high at 62%. There are several potential explanations for this finding, including the fact that studies from the Middle East included patients early in the pandemic when mortality was higher, while the patients included in Australia were later in the pandemic when mortality was lower.

The authors comment that the analysis is limited by the fact that there is no global standardisation of what constitutes intensive care, entry criteria for patients, admitted patients' underlying health characteristics and severity of critical illness, or reporting on the nature or intensity of treatments. Thus direct comparisons between studies from different regions can be difficult.

The authors say: "Our analysis includes studies published only up to October 2020. Since then, several variant viruses have emerged and in some countries transformed the trajectory of the pandemic through December 2020 and into January 2021. This has increased the demand on ICU in those locations and will merit further analysis in due course. To counter this, vaccination is now available in many countries and we can hope that this will also, over several months, positively impact on the pandemic trajectory and demand on ICU care."

They conclude: "After our first meta-analysis last year showed a large drop in ICU mortality from COVID-19 from March to May 2020, this updated analysis shows that any fall in [mortality](#) rate between June and October 2020 appears to have flattened or plateaued."

More information: *Anaesthesia*, doi.org/10.1111/anae.15425

Provided by AAGBI

Citation: Latest review shows intensive care mortality from COVID-19 continued to fall in 2020, but improvement is slowing (2021, February 2) retrieved 25 April 2024 from <https://medicalxpress.com/news/2021-02-latest-intensive-mortality-covid-fall.html>

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