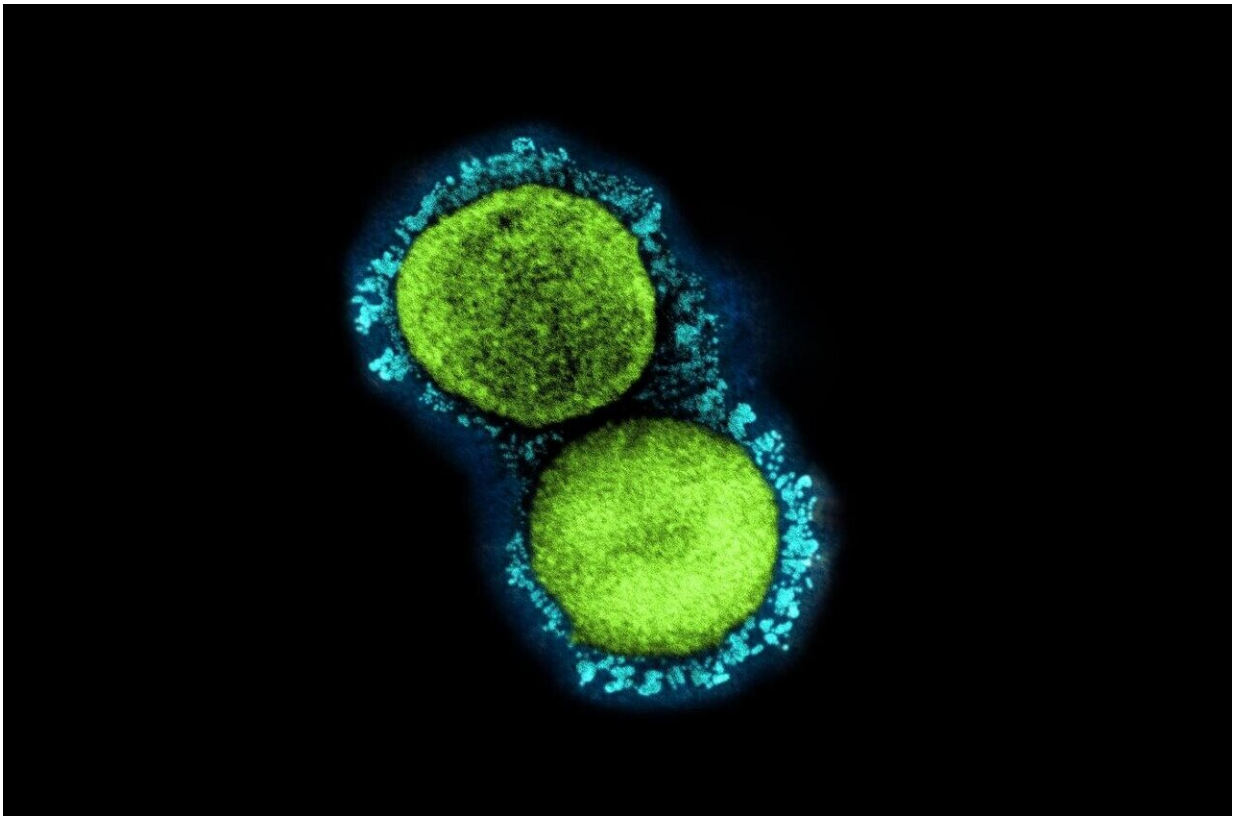


How COVID-19 survival improved in UK hospitals during first wave

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A transmission electron micrograph of SARS-CoV-2 virus particles (UK B.1.1.7 variant), isolated from a patient sample and cultivated in cell culture. Credit: NIAID

The likelihood of people surviving COVID-19 in UK hospitals has been improving over time, a new study has found.

Research published in *The Lancet Respiratory Medicine* by the ISARIC Coronavirus Clinical Characterisation Consortium found that in-hospital mortality declined from 32% at the start of the first wave (Mar-Apr 2020) to 16% at the end of the first wave (Jun-Jul 2020).

In their study of 63,972 adults admitted to 247 UK hospitals the researchers found reductions in mortality were observed in all age groups, in all ethnic groups, for both sexes, and in patients with and without comorbidities. This improvement was found to be associated with adoption of steroids as a newly proven treatment and improvements in respiratory support and critical care use, in part reflecting improved clinical knowledge.

Dr. Annemarie Docherty, Senior Clinical Lecturer at the University of Edinburgh and a Consultant in Intensive Care Medicine, said: "The risk of death for people admitted to hospital with covid-19 was extremely high at around one in three at the beginning of the first wave, and consistently improved over subsequent months. Part of this improvement can be explained by differences in the people who were admitted to hospital, and how sick they were. Further reduction in the risk of death can be explained by improvements in care of covid-19 patients with treatments such as dexamethasone and better use of advanced respiratory support."

Professor Calum Semple, Professor of Child Health and Outbreak Medicine at the University of Liverpool and Co-Lead of ISARIC4C, said: "This is good news in a week where there is some anxiety about how new variants will impact upon the roadmap out of lock down. We now understand better how changes in patient characteristics and improvement in [medical care](#) have led to improved survival in UK hospitals. The discovery of what works and as importantly what does not work was only possible because of prepared research capacity that was put in place by the investigators collaborating at Universities of

Liverpool, Edinburgh, Imperial College, and Oxford with NIHR support."

Professor Chris Whitty, Chief Medical Officer and co-lead of the National Institute for Health Research, said: "This National Institute for Health Research (NIHR) supported research provides evidence that frontline clinicians and [healthcare professionals](#) learnt and adapted to COVID-19 to improve patient care. Many of those healthcare professionals also facilitated research into treatments, such as dexamethasone, which was vital to the improvement in mortality described in this paper. These improvements are testament to the hard work of many."

The work is the latest result from ISARIC—a global network of clinicians and scientists who have been preparing to prevent disease and death from severe outbreaks since 2012 in readiness for a pandemic such as this. The ISARIC4C study is led by researchers from Liverpool, Edinburgh and Imperial College London and is principally funded by grants from the National Institute for Health Research (NIHR) and UK Medical Research Council.

More information: Annemarie B Docherty et al, Changes in in-hospital mortality in the first wave of COVID-19: a multicentre prospective observational cohort study using the WHO Clinical Characterisation Protocol UK, *The Lancet Respiratory Medicine* (2021). [DOI: 10.1016/S2213-2600\(21\)00175-2](https://doi.org/10.1016/S2213-2600(21)00175-2)

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