

Critical changes in COVID-19 standards of care associated with improved mortality outcomes

November 29 2022



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An observational study of COVID-19 standard of care (SOC) measures found improvements in recovery and mortality over time in adults hospitalized with COVID-19 and investigated changes in SOC that may explain these improvements. The study is published in *Annals of Internal Medicine*.

The SOC for patients hospitalized with COVID-19 has evolved rapidly during the pandemic and includes changes in oxygenation practices; airway management; use of prone positioning; anticoagulation practices; and use of antivirals, corticosteroids, and other immunomodulators. These interventions have affected the morbidity and [mortality](#) of patients with COVID-19, but it is difficult to quantify their cumulative effect as the pandemic progresses.

Researchers from the National Institutes of Health and ACTT investigators analyzed clinical outcome data from sequential cohorts of hospitalized patients in the first 4 stages of ACTT (Adaptive COVID-19 Treatment Trial), a series of phase 3 double-blind randomized controlled trials of COVID-19 treatments, to evaluate whether recovery and mortality improved as SOC evolved. Instead of comparing treatment groups within each stage, the authors compared the 3 remdesivir-only groups from the first 3 stages of ACTT. Since ACTT-4 did not include a remdesivir monotherapy arm, recipients of remdesivir + dexamethasone + SOC were compared between ACTT-3 and ACTT-4.

The authors found that between ACTT-1 and -2, SOC changes included a dramatic decrease in hydroxychloroquine use and a gradual decrease in empirical antibiotic use. They also found that the odds of baseline intubation in ACTT-2 were 25 percent lower than for comparable ACTT-1 participants. However, they did not find evidence that these changes affected 28-day recovery or mortality. The authors found that recovery and mortality improved from ACTT-2 to ACTT-3.

The main observed change in SOC that may explain these improvements was a large increase in the use of dexamethasone. Antibiotics also declined gradually between these stages, but antibiotic use also declined steadily across the other stages without outcome improvements.

The authors report no improvements between ACTT-3 and -4 groups.

According to the authors, their findings support the exclusion of nonconcurrent controls when analyzing data from platform trials, particularly for COVID-19 treatments and vaccines.

More information: Gail E. Potter et al, Temporal Improvements in COVID-19 Outcomes for Hospitalized Adults: A Post Hoc Observational Study of Remdesivir Group Participants in the Adaptive COVID-19 Treatment Trial, *Annals of Internal Medicine* (2022). [DOI: 10.7326/M22-2116](https://doi.org/10.7326/M22-2116)

Provided by American College of Physicians

Citation: Critical changes in COVID-19 standards of care associated with improved mortality outcomes (2022, November 29) retrieved 8 May 2024 from <https://medicalxpress.com/news/2022-11-critical-covid-standards-mortality-outcomes.html>

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