

# Risk factors for severe COVID-19 outcomes in a large US health care system

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The risk of acquiring COVID-19—and the severity of illness—in the context of immune-mediated inflammatory diseases (IMIDs) and their therapy, remains incompletely understood. Reported infection rates and outcomes have varied depending on the specific IMID, the nature and size of the study population, and the presence or absence of appropriate control populations.

At the 2022 EULAR Congress in Copenhagen, Dr. Philip Mease reported results from this large US analysis, designed to determine whether specific IMIDs—including common rheumatologic conditions and specific immunomodulatory drugs—are associated with certain outcomes from COVID-19 infection.

Overall, the results showed that rates for positive COVID-19 tests, invasive mechanical ventilation, and mortality were not greater in people with IMIDs compared to those without, whilst [hospitalization rates](#) were similar.

The most important risk factors for hospitalization were found to be age and presence of [heart failure](#)

. When considering the need for invasive mechanical ventilation, heart failure was the most important risk factor, whereas age was the most important factor for increased mortality. Diabetes showed weak associations with these three outcomes.

Spondyloarthritis was weakly associated with decreased hospitalization, ventilation, and death. The use of conventional synthetic disease-modifying antirheumatic drugs (csDMARDs) and corticosteroids showed a weak association with hospitalization, and rituximab showed a weak association with increased mortality.

Following the original abstract submission, Dr. Mease adds an update that the study now includes data for 230,773 patients with positive COVID-19 tests. Analyses include additional IMIDs and medications, with results for two time intervals: before and after the emergence of the omicron variant.

Overall, patients with IMIDs have higher percentages of hospitalization and death than the non-IMID population, likely associated with age and comorbidities. However, in multivariable analyses, few IMIDs showed association with severe outcomes, and those that did had lower predictive value in outcome models. Vaccination and booster status was strongly associated with favorable outcomes.

Provided by European Alliance of Associations for Rheumatology (EULAR)

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